The Builder.

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ILLUSTRATIONS.

Archaic Ionic Capitals, found on the Acropolis, Athens.—Drawn by Mr. R. Weir Schültz ..... *Double-Page Ink-Photo.*
Whittington Hall, Staffordshire: A Restoration.—Mr. M. H. Holding, Architect ..... *Double-Page Photo-Litho.*
New Parochial Offices, Battersea.—Mr. E. W. Mountford, Architect ..... *Single-Page Ink-Photo.*
Business Premises, East-street, Plymouth.—Mr. W. Dunn, Architect ..... *Single-Page Photo-Litho.*
East Elevation and Ground Plan of New Parochial Offices, Battersea.—Mr. E. W. Mountford, Architect ..... *Double-Page Ink-Photo.*

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The Architectural Association Meeting.

IT would be difficult to find much to criticise or dissent from in what we may call the non-polemical portions of Mr. Jackson's paper, read at the Architectural Association meeting last week, on "The Education of the Architect." Important as the subject of education is, it is apt to become dry and formal in literary treatment. Mr. Jackson is one of those architects who has the happy faculty of speaking of architectural education and practice in a manner which is at once practical and picturesque, and which ought to convey to the listener, young or old, the impression that to be an architect is one of the most interesting pursuits in existence (as, rightly regarded, it unquestionably is), and that to study and prepare for the practice of the art is almost as interesting. While Mr. Jackson aims at being essentially an artist in architecture, and wishes to arouse the same ambition in the mind of the student, he by no means forgets the practical side of the subject, and in fact emphasised the practical conditions bearing upon architecture from points of view which are sometimes rather neglected, as for instance in regard to the importance of acquaintance on the part of the architect with the practical methods of craftsmanship in the execution of the decorative work for which he has to make the design.

There are, however, one or two points (still keeping to the non-polemical portion of the paper) on which we should be disposed to suggest a query. The first is in regard to the remark that "construction, planning, and the choice of materials are not architecture, but that they are the foundation of it." Now we submit that plan is not merely the foundation of, but an integral part of the art of architecture. There are artistic plans and inartistic plans; there may be plans which are practically convenient, but are totally devoid of effect or climax; and the plan is or should be an integral part of the architectural idea, not to be dissociated in conception from the other or complementary element in the idea, commonly but loosely called the "design." The plan is part of the "design," not the mere "basis" of it, and the contrary idea logically reduces architecture to a question of decorative detail, which is exactly what some of Mr. Jackson's partisans want to reduce it to, though he has certainly not committed himself to that, in apparent intention at all events.

In regard to Mr. Jackson's advice to design more in perspective, and his rather disrespectful manner of speaking of elevations, as necessarily illusory, it may be questioned whether perspective in its own way is not also apt to be illusory to some extent; it is so easy, by a little coaxing, to get a perspective to look as one wants it, whereas an elevation is a matter of measurement and cannot be manipulated in that way. What is wanted (among students especially) is perhaps the habit of regarding elevations in reference to their mutual relation to each other and to the plan, instead of merely seeing them in their flat plane on the paper.

Mr. Jackson's comparative depreciation of Greek architecture as a subject of study, and his (to our mind) rather surprising preference of Roman architecture in this light, received from Mr. Farrow the rather obvious reply that it was not easy to see how anyone was to understand Roman architecture without the study of Greek. Roman architecture is no doubt in some senses much more modern, and much more allied to modern feeling, than Greek architecture; but the further and perhaps more complete answer might be that in studying Greek architecture the student is studying the architecture which exhibits the greatest refinement of style, detail, and proportional relation—a style in fact in comparison with which everything else in architecture appears comparatively coarse, and that on this account it is valuable above all other styles as a training for the student. In regard to Mr. Jackson's recommendation to students to write a specification of their work as well as drawing details, which is an admirable suggestion, the terms in which it is made seem to ignore the actual facts as to the way in which building is carried on in the present day. Mr. Jackson says a specification "is simply a letter to the workmen telling them once for all what, if you had no specification, you would have to tell them bit by bit as the work went on;" and he urges that it should be a sensibly written document with no unnecessary verbiage, and "not the senseless farrago of repetitions and stock phrases that some people write." Now we fully sympathise with the feeling which induced Mr. Jackson to write those words. The regulation type of specification, with the regulation wording, is one of the most uninteresting types of document that could well be perused; and we observe that with some architects the constant exercise of writing this type of specification induces a habit of using the same kind of phraseology in correspondence and other writing,—what we once stigmatised as "specification English." But when Mr. Jackson defines the specification as a "letter addressed to the workmen" to explain the meaning of the drawings, he should surely explain his own meaning more clearly. Does he or does he not mean to ignore the contractor, to ignore the system of contracts and estimates beforehand, and to recommend the carrying out of work without a contract and the payment by measure and value? If he means that, then his definition of a specification is perfectly correct. But if not, the definition is incomplete and to a certain extent misleading. If a building is to be done by contract, the specification is a minute description from which the contractor can estimate exactly the amount of material he has to provide, or a quantity surveyor can estimate it for him; and in that case it must have the precision of a legal document, which, on signature, it practically becomes. If we are to do away with the contractor and come to "measure and value," well and good; it would be a good day for architecture probably, for we should have much better work carried out, though at considerably more cost. But if Mr. Jackson does not mean that, his advice is rather dangerous. It would be much pleasanter to write a specification as one writes a letter, but the young architect who adopted this view in practice might be rather disenchanted if he found that he had involved his client in a law-suit and a considerable loss of money, through not having stated his requirements from the contractor with sufficient precision of language.

This point in fact is rather typical of the whole position of the gentlemen who may call themselves, as Mr. Blomfield says, "the memorialists." As some one said of Coleridge,

they are wanting "better bread than can be made of wheat." Under the influence of a noble enthusiasm for what they consider the purest and highest view of architecture, they entirely ignore existing circumstances, and are apparently prepared to shut their eyes to every view of architecture which does not square exactly with their own theory of it; a theory open, it may be observed, to very considerable criticism. Among other things, it is an article of faith of "the memorialists" that surveying has nothing to do with architecture, and hence they seem to have set up a kind of "surveyo-phobia." They will not not belong to an Institute in which anyone is included who practises surveying in conjunction with architecture: because they will not survey, no one else shall. Now we quite agree that much which is included under the head of surveying has no relation to architecture at all; but we do not think that the overt act of land-surveying comes under that head. Part of architecture consists in the consideration of the site and the placing of the building on the land; and in the case of a mansion to be built on a new estate, an architect who surveys the estate himself will know much more about the ground than one who has merely had it surveyed for him; and this argument has double weight when we consider that there is now a very prevalent feeling that the laying out of an estate round a mansion should be considered in relation to the mansion itself as the centre of the whole. Yet the demand of "the memorialists" is that no person should be admitted as a member of an institute of architects who allows himself to have anything to do with surveying, and they even seem to expect that the Institute of Architects should be prepared to turn out members who practise surveying in conjunction with architecture. We do not believe that such a position has ever been taken up before, and it appears to us both unreasonable and impracticable.*

In regard to the renewed criticism of the sin of the Institute in setting up an examination test for entry, while admitting that there is something to be said on both sides, we are of opinion that the institution of the compulsory examination has had a very wholesome effect on the Institute, and indirectly on the education of the younger generation of architects. That it was likely to lead to a higher standard of educational attainment within the ranks of the Institute was shown by the significant fact that, just before the period when the examination was to become compulsory, there was a rush of applicants for admission as Associates, who obviously wished to escape the examination. There is no question that, having taken this step, the Institute were right in standing to their colours, and that had they consented to re-open the question at the request of "the memorialists" they would have been acting in a very weak manner, and we must regard the expectation that they should do so as an unreasonable one.

Architecture is a science as well as an art, and from that point of view it must appear, to those who can consider the subject impartially, a very strange thing that a representative body of architects should be censured and attacked with so much bitterness for taking steps to ensure that people elected to membership of their body should have at least a certain standard of technical knowledge of the science of building, as well as a certain standard of general education. The common sense of public opinion, we surmise, will be on their side in such a matter. In this connexion the remarks of Mr. Prior, whose speech from his own point of view was one of the best of the evening, are significant and in a sense humorous, though not intended to be so. It was perhaps well that none of those wicked persons who assail architects in the daily papers were present, or they might have obtained a very good point from Mr. Prior's naïve admission that he was sent by his principal to act as clerk of works on a building, though he declared he knew nothing of construction, on the ground that he would "find it come all right;" in other words, we presume, that he would learn it when he got there. It may be interesting to know what the principal's client would say to that view of the matter. Then, having undertaken the task, Mr. Prior says he very soon found that after all construction "was only the exercise of common sense," the point of which remark was, we presume, to discredit and render of no account the problems in constructional science set in the Institute examinations. Well, Mr. Prior's way of putting it is piquant and attractive, and as far as the work of an ordinary dwelling-house goes it is perhaps about the truth. But do Mr. Prior and his friends think that the Forth Bridge, for example, could have been built by the exercise of common sense among workmen and clerks of works meeting on the ground? We think Sir Benjamin Baker would tell a different story. That is an extreme case, but surely architecture is not reduced merely to such simple problems as may present themselves in building an ordinary house. Surely it is at the bottom the science of constructing on a great scale as well as the art of giving expression to structure. To deny that is to rob it of half its realm, and to reduce it from the science of building, undertaken with a sure knowledge of the effect of strains and balance of forces, to a mere kind of æsthetic cobbling up of materials by the aid of what is called "common sense," which means a mere craftsman's experience without the aid of a scientifically studied theory of building. That some of the greatest Mediæval buildings were cobbled up in this way, constructively, is quite true; but they are not the better for that, they are the worse.

All this appears to us to be the result of a kind of one-sided enthusiasm for one view of architecture, which is an incomplete one, and which cannot be permanently maintained. Those who are maintaining it at present include no doubt some of the ablest men of the day in the profession or art of architecture, but they appear to us to have emphasised one element in architecture at the expense of the other, and to be quite *tête montée* in their antagonism to the Institute of Architects, which we certainly think has shown more temper and more reasonableness in discussing the subject than its opponents. As to the general temper of the Association meeting on the occasion referred to, it must have seemed to any impartial onlooker that the majority of the meeting were actuated by simple and blind hostility to the senior body, and ready to applaud any criticism and any sneer made at its expense. Whether that feeling is exceedingly creditable either to the good taste or the good sense of the younger body is certainly questionable. It might be supposed, from the tone and temper of the Association meeting and its guests, that the Institute of Architects was the declared enemy of all the views on architecture and architectural education put forth in Mr. Jackson's admirable paper. As a matter of fact, if the substance of that paper, omitting the polemical portions, had been read upstairs instead of downstairs, it would have been received with just the same enthusiasm. If architects would only try to find out where they agree, instead of being so anxious to find it out where they differ, it would be more for the good of architecture.

* In a sentence not included in our necessarily somewhat compressed report of the speeches, Mr. Jackson (in his reply) referred to the Editor of this journal as having observed to him in conversation, in regard to the Surveying members of the Institute, "How are we to get rid of them?" That is not *quite* the way it was put. What "we" really said in the conversation referred to was,—if a man had been properly elected a member of the Institute on the ground of his qualifications as an architect, and subsequently took to surveying, was it reasonable or practicable to demand that the Institute should on that ground expel him?

Erratum.—In a "Note" on p. 438 of our last issue, regarding Portland cement tests, for "vivification," in line seventeen from end, read "vitrification."

ON THE EARLY IONIC CAPITAL.

BY MR. R. W. SCHULTZ.

The early Ionic capitals reproduced in the lithograph in this issue belonged to a series of pedestals supporting votive figures, which stood on the Athenian Acropolis previous to the Persian invasion of 480 B.C., and which were unearthed during the excavations there two or three years ago. They are invaluable to the student of archaic Greek architecture, inasmuch as they were undoubtedly copied from prevailing types of the time, and so are useful in aiding us to get at the forms of the Ionic capital of the sixth century B.C. and earlier.

We find in our three examples three distinct types of progression, although we can hardly assume that they are historically progressive,—that is to say, that the simpler form is necessarily the earlier,—because we must keep in mind that they were not structural parts of buildings, but rather adjuncts, placed either closely adjoining them, or standing distinctly in the open, and each probably represented the individual fancy of the donor, who may have used the type that pleased him best, or the simplest, as No. 1, perhaps from motives of economy.

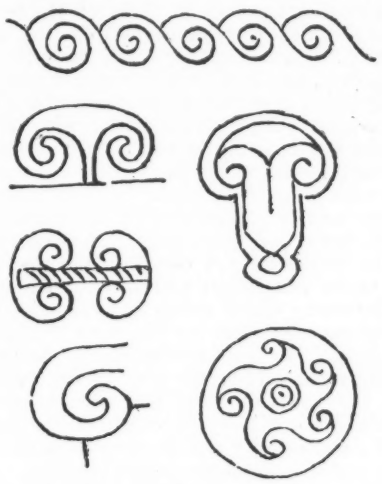
The series of pedestal capitals found during the excavations is large and varied, and each example shows traces of coloured decoration. It includes not only Ionic capitals belonging to circular pillars, but also simple moulded capitals belonging to pedestals of various sizes and shapes, square, oblong, octagonal, and so on. The mouldings on them are very interesting, and throw new light on early Greek forms. Of the pedestals to which they belonged few traces have been forthcoming, and of the votive offerings which they supported only one or two fragments have been found which could be identified and fitted to them, and they were figures, presumably, of priestesses.

But we must confine our attention at present to the Ionic capitals only. At different times various pedestal caps of Ionic form have been brought to light both on the Acropolis of Athens and elsewhere, and the collection extends, including fragments, probably to about two dozen examples. All of these cannot be definitely said to be earlier than the Persian War, although most of them undoubtedly are. With one exception, they are all of marble. Until the time of the rebuilding of Athens, after 480 B.C., we know that marble was not used generally for structural purposes, the stone in general use being the Piræus limestone, which is of a porous nature, and which was usually covered with a coating of gesso or plaster. This stone was used for the walls, pillars, entablature, &c., and the marble only for the specially exposed parts, such as the stylobate of the columns, the cymatium of the cornice, &c., and this latter oftener than not was of painted terracotta; but for statues and smaller and more ornamental details of the architecture, marble had already begun to be used. We find, for instance, it was used for the fine archaic statues now in the Acropolis Museum, and also for these pedestal capitals. They are mostly of Paros marble, which must have been imported into Athens for this purpose.

The origin of the Ionic form of capital has always been a subject of much theory and speculation. The following are some samples of theories on the origin of volutes which have been put forward by scholars. Winckelmann says they may have been suggested by coiled snakes, Stackelberg by rams' horns, Viollet-le-Duc by shavings, Hahn by the spiral of marine shells, Vitruvius by the curled locks of women's hair, and so on. Dr. Joseph Thacher Clarke, the excavator of Assos, some five years ago wrote a paper on this subject, with special reference to an early capital found by him at Mount Chigri in the Troad, opposite Tenedos. Dr. Clarke quotes the testimony of antiquity to show that the European Greeks derived this Ionic form from the eastern coast of the Ægean, and that it found its way there from Mesopotamia

through Cappadocia, Phrygia, and Phœnicia. The original idea was derived from the palmetto, which was much used in Assyria as an ornamental feature, and from the spiral which is one of the commonest forms of ornament in primitive art. For instance, in Mycenæ work, we find the spiral used in every

FIG: 1. SOME · EARLY · SPIRALS ·



conceivable way and form (fig. 1); cut on the stones of the Great Treasury doorway and on the grave monuments, spiral following on spiral; embossed on gold discs and buttons, cut on gems, twisted in thin gold wire, and put together as bracelets or as ornamental heads to pins, &c.,* in coils to form rings, and on vases it is one of the very commonest of all ornament. What more natural than that out of the combination of the two most usual forms of ornament should develop the Ionic cap which embodies both.

The early structures of Chaldea and Assyria were mostly of wood. The early forms of capitals show signs of an origin from a wood construction. They are comparatively thin and hang over much on each side, as if they had been brackets on posts to support a wood beam over. This construction is usual still to-day in the East. Perrot and Chipiez, in their volume on "Phœnicia," give an illustration of part of the front of a modern house

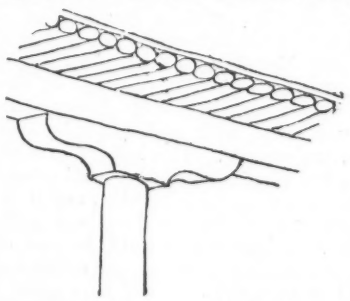
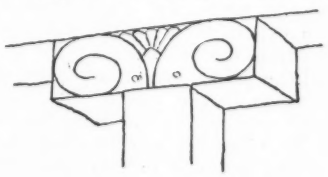


FIG. 2 HOUSE AT LARNACA ·

in Larnaca which shows this (fig. 2). Dr. Clarke bases his suggestion of the origin of the Ionic cap (fig. 3) on this form of construction; the wood post and the horizontal block over to support the beams of the roof; this



DR CLARKES · SUGGESTION · OF · ORIGIN ·
FIG: 3

block was ornamented with spirals scratched or painted on, and with the palmetto inserted between. The Chigri cap (fig. 4) is almost exactly of this form, but made to fit on to a circular pillar, and the Phœnician cap for a square pillar, from Trapeza, in Cyprus (fig. 5), is very similar, but with an abacus added. It is interesting to compare the similarity of this Cyprus form with the ornament on the ivories from Nimroud (figs. 6 and 7) and to note that this cap is almost an exact facsimile

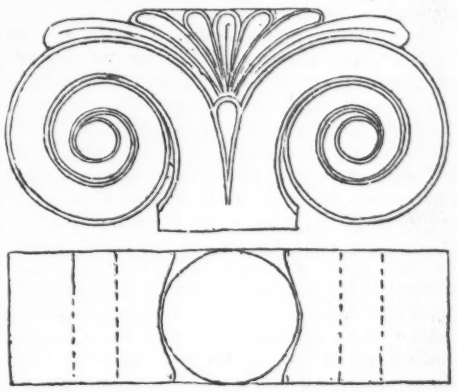


FIG: 4 · DR · CLARKES · CAPITAL · FROM · CHIGRI ·

of the lower part of the lotus stem in the second example (fig. 7).

The example from Kition, near Larnaca

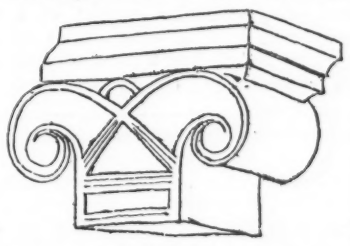


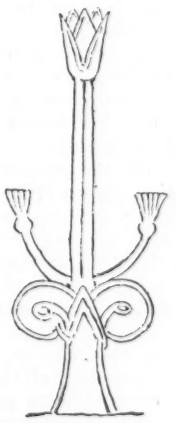
FIG: 5 ·
PHOENICIAN · CAP · TRAPEZA · CYPRUS

(fig. 8), shows the individuality of the Phœnician tradition still lingering, even on a late capital, which was probably executed

FIG: 6 · A · NIMROUD · IVORY ·

under imported Greek influence from the west.

These early forms which we have just



A IVORY FROM NIMROUD
FIG: 7

traced, culminated in the capitals of the Archaic temple at Ephesus, built by Crœsus about the middle of the sixth century B.C., a

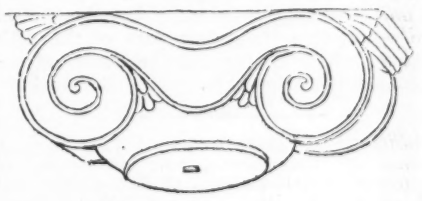


FIG: 8 · A · PHOENICIAN · CAP · KITION · CYPRUS ·

specimen of which we may hope soon to see put together and exhibited in the British Museum.

We thus find that towards the middle of the sixth century the Ionic capital had been developed to about the same form in which it was used a century or so later in the finest of all examples, that of the Propylæa at Athens.*

We may now turn to the consideration of our Athenian pedestal capitals. The similarity of the Archaic sculptures of pre-Persic time, now in the Acropolis Museum, with those of Assos and other Asian examples, shows that there must have been considerable intercourse in the sixth century between Athens and the coast of Asia Minor; so, doubtless, the prevailing Ionic forms were well known to the Athenians, and were used up by them in this way. Mr. Flinders Petrie tells us that at a very early period in Egypt the temple column was copied in this way to serve as a pedestal or primitive altar in houses, and he has thus shown by some examples he has found, and which he has been able to date, that some forms of capitals and columns were in use earlier than had been

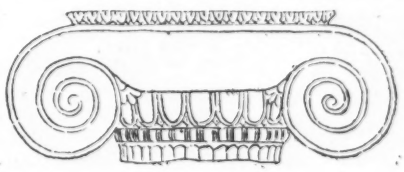


FIG. 9 CAPITAL FROM THE ARCHAIC TEMPLE AT EPHESUS. RESTORED BY MR. ELSEY SMITH

generally supposed. It is curious, however, to note that there are no traces of structural fragments which might go towards showing the existence of an Archaic temple, or temples, of the Ionic order on the Acropolis at Athens. The only piece of sufficient size is a fragment of a large Ionic capital of Piraic stone, which might have fitted a column of about 3 ft. 6 in. diameter at the necking, and this in all probability, as no others were found, was a single pillar supporting a figure or some other votive offering, much as the two large Corinthian pillars were erected in later times at the top of the Theatre of Dionysos and under the south wall of the Acropolis as choragic monuments in order to support tripods.

It may be most convenient for our purpose to examine the capitals in our plate in order of elaboration, and, first, we may take No. 1 (see

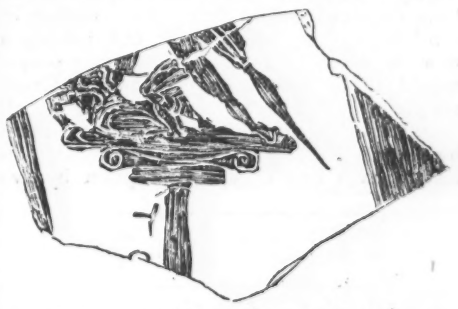


FIG: 10 IONIC PEDESTAL & GROUP FROM A VASE ·

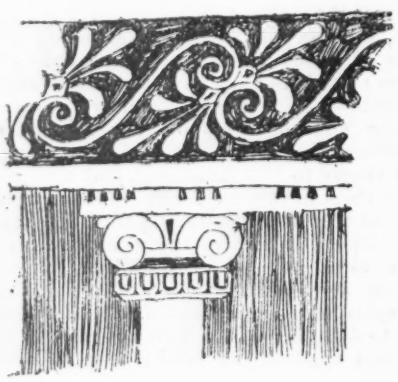
lithograph), which is the simplest form. This shows a completely flat surface on both sides, and shaped only at ends and with the lines of the volutes simply painted on with a red line. This form corresponds very nearly with Clarke's primitive wooden capital (fig. 3). It is interesting to notice how the plain circular band or necking under the volutes has projected about $\frac{1}{8}$ in. over the top of the column all round. There is a slight flat chamfer, hardly discernible, on the angle and traces of colour on the soffit under. We see a similar projection, on the pedestal with the siren from a fifth-century vase, which appears in our plate. There are various fragments of other capitals of this simple type in the Athens collection, and they all show this slight projection of necking. We also find it in a more exaggerated form in another similar capital (not illustrated), and also on an example

* It is curious to find this tradition still in vogue to-day in the jewellery of the peasantry.

* I do not say that the Erechtheum capitals are less beautiful of their kind, but this Propylæa example shows a simplicity and breadth of treatment and a severe dignity which its more elaborate sister somewhat lacks.—R. W. S.

drawn on a vase in the Acropolis museum (fig. 11). The total width of this capital, marked No. 1 on plate, is 20 in., measured

FIG:11 IONIC CAP ON A VASE.
ATHENS. IN ACROPOLIS MUSEUM



along the top of the abacus, and the thickness is 10 in. The colouring is very faint.

The capital marked No. 2 on the plate has still the volutes only painted on, and not cut in, but the junction of their ends in the centre is treated more elaborately, and between the volutes we have a projecting echinus, decorated with a leaf ornament, painted in alternate colours of green and red, with blue lines and red tongues dividing them, and the palmettos drawn in the angles over this are in white on a red ground. The lines of the volutes in this capital are blue, and the central disc in each is red. The total width of this capital over the volutes is 22 in., and its thickness is 10 in.

Another example of part of a capital of this type which has a piece of column still attached to it is particularly interesting for two reasons,—first, the column has Doric flutings. Other cases of this kind are known, as, for instance, the Heroon of Selinous, where the Ionic capital was employed with the Doric entablature of triglyphs and metopes, and there are many examples on vases. The other curious point about this is also in connexion with the column, which has a vertical inscription cut in on two of the flutes. The top of the column, which had the flutings finished in the usual way, must have been damaged before fixing, but, instead of condemning the whole shaft and having a new one made to replace it as many people would think essential now, the old Greek simply cut off about 2 in. from the top all round, shortening the length of the column by that amount, and replaced the two letters lost in each line of the inscription by two

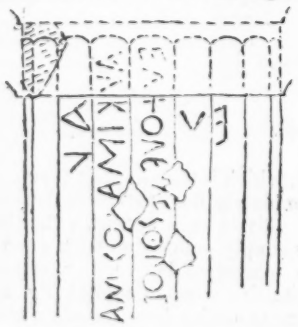


FIG:13 HEAD OF PILLAR SHOWING REARRANGEMENT OF LETTERS AFTER DAMAGE

similar letters on the adjoining flutes (fig. 13) This column has twenty flutes in the circumference.

There are, in the Acropolis Museum, a number of shafts without capitals attached; some have flutings all round like the one just described, others,—evidently intended to stand against a wall,—have only six or seven flutes formed, and the rest of the circumference remains plain. Sometimes these are only plain chamfers and not sunk flutes at all. The dedicatory inscription, as in the case cited above, commonly runs up or down one or two of these flutes, but in the case of the simple moulded capitals, not Ionic, it is often cut on the abacus instead. Many of the pillars are fixed into plain square stone bases, like the pillar of the pedestal illustrated in our plate.

The capital marked No. 3 goes a step further than the other two. The volutes are not merely painted on, but are cut in with a concave section. This sinking continues across the face, joining the two volutes together. The echinus remains of much the same character as in the previous example, and is ornamented in a somewhat similar way. The abacus is plain, with a fret ornament painted on in green and red, but it does not extend the full width over the volutes as in No. 1. A piece of carved leaf ornament is introduced under the abacus over the side of the volute on one end; on the other end it is merely painted on. There is no necking other than the echinus, and the face of the column is considerably set back from this by an undercut sinking. The whole is more graceful and slender than No. 1. The width over volutes is 20 in., and the diameter of the column $7\frac{1}{2}$ in. The thickness of the capital is 11 in. The ends of the volutes in all these early examples consist of a quite simple concave sinking with a fillet on each edge. Later on it had a band of beads and grooves down the centre as well (see

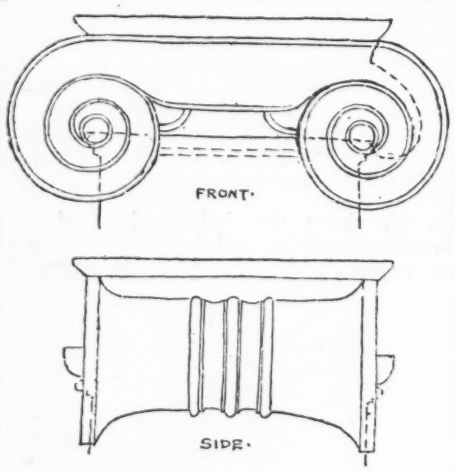


FIG:12 A LATER PEDESTAL CAP. ATHENS.

fig. 12). We ought to note that the form of the echinus of these capitals is not the one usually employed in later times. It is a curve of a convex form springing out directly from the face of the flat surface over. This form shows that these pedestals were low, and intended to be looked at from about the level of the eye, and were not fixed so that you had to look up at them, otherwise half the value of the decoration on the member would have been lost.

For the sake of comparison we give as another illustration (figure 12) a later type of capital, of which there are many examples extant. Here the echinus is of the later form, and probably fitted on to a column with a necking consisting of a bead and fillet of the ordinary kind. The abacus is moulded, not plain, and the fact that there is no carving either on the abacus, echinus, or palmettos goes to show that all these members were originally covered with painted ornamentation, which has disappeared. In other cases these members were very often carved.

It would be easy to go on giving further examples, for the Ionic pedestal capital always maintained a certain individuality, and often varied considerably in detail, although the Propylæa model became the one in most general use; but this would take us on into the latter part of the fifth century, which is beyond the limits of so-called Archaic Greek art. R. W. S.

Birmingham Engineering Students. — A meeting of the Birmingham Association of Students of the Institution of Civil Engineers was held on the 3rd inst., at the Midland Institution, the President, Mr. J. Edward Willcox, A.M.Inst.C.E., being in the chair. A paper was read by Mr. H. Hyatt on the "Testing and Manufacture of Portland Cement," which was followed by an interesting discussion.

FURNITURE BY "KENTON & CO."

In the little old "Hall" of Barnard's Inn there is on view this week an exhibition of articles of furniture sold by "Kenton & Co.," the business style and title of a company of architects. This is the second exhibition of the kind held at Barnard's Inn, though we observe in this week's collection two or three of the larger articles which were exhibited on the first occasion. The company, we learn from its prospectus, has been formed "with the object of supplying furniture of good design and the best workmanship;" all the work is designed by members of the company and made under their personal guidance by their own workmen; and each piece of furniture is made entirely by one man and stamped with the initials of the designer and workman. The recognition of the workman is of course a step that has our entire sympathy; and without adopting the inference which seems to be suggested in the prospectus, that no furniture "of good design and the best workmanship" is to be had anywhere else, we may at once admit that the boast of "the best workmanship" is fulfilled implicitly in every article exhibited; the solidity and thoroughness of the work could not be too highly praised. As to the designs, one must be a little more discriminating, except that certainly there is absolutely nothing that is in bad taste: but there seems about some of them rather an ostentation of plainness and simplicity. Mr. Gimson's sideboard (No. 18), for instance, in plain untreated wood, goes admirably with the pewter platters displayed on it, and the whole would be very suitable for an æsthetic kitchen (and why not æsthetics in the kitchen?), but for a dining-room it is somewhat of an affectation of cottage style, and the wood would get very dirty-looking in time. The inlaid sheep on the back of Mr. Lethaby's "Bishop's chair," (No. 35), with the legs put in as separate pieces somewhat in the shape of clubs, and without a suggestion of anatomical truth, seem to us a not very good joke. The best things in the room are the rosewood and cane-seated settee (3) designed by Mr. R. T. Blomfield, of noble proportions and fine in its sweeping curves; another cabinet by Mr. Blomfield (40), with a single large design lined out on the face of it with thin white inlay; Mr. Macartney's "Lady' writing table" (27), notable alike for elegance of line and solid workmanship; and Mr. Gimson's cabinet (28) decorated with a diaper inlay in ebony, holly, and orange. This latter is a really fine thing, full of character, and well constructed and designed in every portion, and if it were an ancient work in the furniture gallery of South Kensington it would be one of the most interesting items of the collection, and would be sketched over and over again.

Of course it is not to be expected that an article of furniture carried out by one workman from a special design, and where no machinery is employed, can be done at the same price as furniture carried out wholesale from stock patterns and with the help of machinery; and in many cases the prices do not seem too much for such work as is offered; in others, most people who consider the matter from the purchaser's point of view would call the prices somewhat extravagant, as for instance in the case of the rosewood settee above referred to; and when the visitor considers Mr. Gimson's kitchen chairs at 10*l.* the half-dozen, and one or two other articles in the room, he might be excused if he came away with an idea that "Kenton & Co." was an institution at which he could enjoy the privilege of purchasing very plain articles of furniture at an exorbitant price.

That this is not generally true of the collection we have already said, and it is a real pleasure to see so much thoroughly good workmanship in one collection, not to speak of the high standard of artistic feeling and individuality of character in some of the designs. There is another point suggested, however, by the exhibition. We observe that the architects concerned in the firm

belong to that party who are opposed to the policy and procedure of the Institute of Architects, and refuse to belong to that body; and (without for a moment suggesting this as the motive of their opposition) we cannot help remembering that if they were members of the Institute they would be debarred from carrying on this company, by the regulation which debars architects from having a pecuniary interest in anything connected with the materials about which they have to advise their clients as to their outlay. And a little consideration may perhaps suggest that, in this as in some other matters, the Institute has acted more for the good and dignity of architects than its critics are willing to perceive. It is perfectly evident that if the architects who are members of "Kenton & Co." wished to recommend to a client to go to them for artistic furniture in keeping with the style and sound construction of his house, they would expose themselves to the reflection (not an agreeable one even when groundless) that in so doing they were acting in their own interests and looking to the increase of their own dividends; and perhaps experience may show in the long run that the Institute of Architects was not far wrong in setting up the principle that no architect should put himself in the position, on however æsthetic a basis, of having to advise his client as to the expenditure of money on building materials or decorations in which he himself has a commercial interest.

NOTES.

THE annual distribution of prizes and medals in connexion with the schools at the Royal Academy took place on Thursday, December 10. As is usually the case in "Gold Medal" years, some additional interest was taken in the prizes and their winners. The Gold Medal and Travelling Studentship in Architecture was keenly competed for, and produced a large number of designs, mostly Renaissance in style, the successful competitor being Mr. A. H. Hart. The subject was a town house specially planned for the lighting of pictures, although a picture-gallery was not to form part of the design. The Silver Medal, for a set of measured drawings, was well awarded to Mr. F. E. Ward, whose set illustrating the Hanover Chapel in Regent-street was especially interesting at the present time, as being a careful record of a building which is soon to be a thing of the past. In a third room were some very careful and interesting sketches, made by Mr. Charles Spooner during his trip as Academy Travelling Student for 1890-91. Amongst many others were a valuable set of measured drawings of Prior Cranden's chapel at Ely, including a coloured one of part of the tile flooring, and a very beautiful drawing of the interior of the eastern part of Wells Cathedral, a clever rendering of a very difficult subject. There was a thoroughness about the work, as a whole, and an absence of "trick," that was most praiseworthy, and which future students will do well to copy.

THE resignation of Lord Lingen, Chairman of the Finance Committee of the London County Council, and of Mr. B. L. Cohen, the Vice-Chairman of that body, is a serious blow to the reputation of the Council. Lord Lingen is a sound and experienced master of financial matters, and during his tenure of office at the Treasury he was the permanent and trusted financial adviser of many Governments, both Conservative and Liberal. Mr. Cohen is a gentleman of great business experience in the City. It is the policy of these experienced and capable men in regard to loans to Vestries which the Council has condemned at the bidding of Mr. Charles Harrison, a solicitor, an amateur financier and a doctrinaire politician. Apart altogether from any question of principle, it is absurd in a moribund body to try to adopt new principles, which may or may not appear good in the eyes of their successors. But the regrettable feature of this matter is that such incidents as the reversal of Lord Lingen's policy make a seat on the Council less and less inviting to men of weight and experience, which qualifications appear to count for nothing with ordinary members of the Council.

THE recent outbreak of diphtheria at Wellington College will form the subject of a report by a competent committee of experts. It is to be hoped that the report, when completed, will be made public, as it may assist other public and private schools to prevent such outbreaks. Last year a slight outbreak,—not of a serious character,—of diphtheria occurred at Marlborough; the cause of this was never definitely ascertained, but no doubt it came from some outside source. The health of the schools of England is so important that it would be well if those in authority over them would have periodical inspections by a competent person. The best sanitary systems are liable to get out of order, or are misused, and it is impossible for head-masters, under-masters, and bursars to keep an eye on these things. The medical officer has enough to do to attend to his patients. An outside inspector, who should look over the sanitary arrangements of a great school from an independent standpoint, would be a great safeguard against outbreaks of disease, and keep servants up to the mark in attention to sanitary precautions.

A MEETING, called by the Attorney-General, was fixed for last Thursday, at Westminster Town-hall, to inquire into the expediency of selling Emanuel, or Emmanuel, Hospital, in James-street, opposite to the end of Vandon (should be Van Dun) *olim* Little George-street. The Corporation of London, as trustees, desire to dispose of the property and re-erect the hospital elsewhere. The charity was founded by Anne, widow of Gregory Fienes, tenth Lord Dacre of the South, who died *s.p.* on September 25, 1594. The Baroness, who died a few months after her husband's decease, was sister to Thomas Sackville, Earl of Dorset, the poet, and a relative of Anne Boleyn, to whose daughter she served as maid-of-honour. She directed her executors to build near to her own home, Stourton House (whence the now Strutton-ground), in Tothill-fields, "a meet and convenient house for twenty poor aged folk and twenty children," and to obtain a charter of incorporation; she appointed that on the last surviving executor's death the Lord Mayor and Aldermen should succeed to the perpetual control. A charter was granted in 1601, and, until about 100 years ago, the beneficiaries had some share in the management. Upon failure of servants and dependents of her own family, the foundress ordained that pensioners should be chosen from the poor of St. Margaret, Westminster (17), St. Luke, Chelsea (2), and Hayes, Middlesex (1).* The original endowment consisted of 100*l.* per annum charged upon Brandsburton Manor, near to Beverley, for 199 years, and then of the entire Manor. This, with a small estate in Westminster, has yielded 4,000*l.* since, but latterly the income fell to, say, 2,500*l.* Each inmate was to "bring up and instruct one child in virtue and good and laudable arts." In 1821 the Governors increased the number of boys and girls to twenty apiece, and built for them a schoolroom with dormitory. By 1847 they had raised the number to sixty. But in 1873 the school was taken by the Charity Commissioners into their scheme for the United Westminster middle-class Schools,—Palmer's, Emery Hill's, St. Margaret's, and Emmanuel. Many persons thought that in appropriating two-thirds, about 1,600*l.*, of the income to the school, which was a minor feature of Lady Dacre's endowment, the Commissioners dealt somewhat unfairly with the almspeople's legitimate claims. The Corporation, too, seemed to lose heart. Last year it was stated that only thirteen pensioners were on the foundation, and at present, we are credibly informed, they are even less. For some while past the fabric has been allowed to fall into a reprehensible state of disrepair and decay. The hospital comprises three blocks ranged about a planted quadrangle and flagged pathway, with water-conduits, as rebuilt (excepting the chapel) *temp.* Queen Anne, of red brick, with tiled roofs. Each of the two wings consists of ten one-storied sets of rooms, with a central gable and heavy porches with the parish names painted, or in cast-iron tablets, over the doorways. The main block, two-storied, contains the chapel (1732), the tympanum of whose stone pediment bears a large and boldly-carved achievement of the City arms. In 1846 they added a chancel, placing therein the altar-piece of St. Bennet Fink, removed for Tite's Royal Exchange, and a model of the Dacre monument in old St. Luke's, Chelsea. Behind is a garden of 2,600 square yards. It is said that 30,000*l.* has been offered for this site. There, however, yet stands one of the very few survivals in London of old-world methods whereby pious founders sought to relieve the aged and distressed.

* These are the several numbers given in Hatton's "New View," ii.-781 (1708), and in an official notice convening the meeting. But according to the names over the house-doors, Hayes and Westminster have 2, and 16, almspeople, respectively. In 1843 the Corporation built a National School for Brandsburton parish.

FROM the surplus fund of the Exhibition held in Edinburgh in 1886, a sum of 1,500*l.* was voted for the purchase of books of a technical character for the Free Public Library, such as would prove of the greatest service to working men in the prosecution of the various trades. The collection of works secured embraces many volumes which are very expensive, and not likely to be found in any other library in the city. Several of them are in French, Italian, German, Spanish, and other languages, but in each case these are illustrated, so that, to a great extent, they can be used by those who are not conversant with foreign languages. A series of meetings is to be held in the reference department of the library, and last week the first of these was held, when masons, joiners, and plasterers to the number of fully two hundred, assembled, and were received by the Library Committee. Sir Thomas Clark, on behalf of the Committee, called the attention of those present to the valuable collection of technical works displayed on the tables, and expressed the hope that advantage of the collection would be taken by those whom he addressed and their fellow-workmen. Mr. Hew Morrison, the librarian, is to give every assistance, by explanation and otherwise, to those who consult the collection.

THE northern portion of Rosebery-avenue, Clerkenwell, as far south as Garnault-place, was ready for traffic on Wednesday. It opens out of St. John Street-road (over against Owen's-row), and, following the line of the New River, which runs beneath, passes between one side of Myddelton-place and Sadler's Wells Theatre, traversing the site of Islington Spa,* Deacon's Music Hall, and the adjoining "Sir Hugh Myddelton" Tavern, successor to the "Myddelton's Head," whose sign is depicted in Hogarth's "Evening." Then skirting Spa-green, and passing eastwards of New River Head and Merlin's Cave, it crosses Garnault-place,—so named after a former secretary of the New River Company,—Rosoman-, Tysoe-, Yardley-, and Easton-streets, to the corner of Exmouth-street. Next traversing alongside of what used to be called Cobham-row, on the slope of Mount Pleasant, it meets the viaduct which Lord Rosebery formally opened on July 21 last year, when he is reported to have said that the project would involve an outlay exceeding 400,000*l.* The land on both sides of

* Sadler, a surveyor of roads, discovered the spring in 1683. Highly popular as the "New Tunbridge Wells," Sadler's music house was re-built, in 1765, by Rosoman, a builder.

the viaduct was sold by the Council for the erection, as required by the late Metropolitan Board of Works Act, 1885, of dwellings for 660 persons of the labouring class within meaning of that Act. These, so far, together with two blocks on the Coldbath-square site, by the Artisans', Labourers', and General Dwellings Company, are designed in a better and more cheerful style than that of most similar structures in London. The works for the new road, begun six years since, have been delayed by the obligation to first settle, and obtain the Home Secretary's consent to, schemes for re-housing a total of 3,416 inhabitants before pulling down their houses. In May last year the Home Office modified the late Board's scheme as regards the width of the street, which is now to be 60 ft., at least, throughout. According to the plans, the 3 ft. by 2 ft. sewer under the viaduct subway, falls into the old Fleet sewer, which here forms the boundary between St. Andrew, Holborn, and St. James and St. John, Clerkenwell, parishes.

SOME premises are now in course of being built over the site of the Clerkenwell House of Detention for the London School Board, and these, we are told, will include schools for the blind and for instruction in cookery. Formerly known as the "New Bridewell" (or "Prison"), as rebuilt in 1774-5, it was pulled down and replaced forty-five years ago by the prison which, in its turn, has lately been demolished. For description, with plan and section, see the *Builder*, vol. iv., No. 185: Mr. Moseley, architect. The surrounding wall, with the stone gateway in St. James's-walk, will also be levelled. Thus, with the wall, and the recent re-building of Corporation-row,—so called after the "New Corporation" workhouse, erected under an Act of 1662,—will have disappeared all traces of the attempt made in December, 1867, to facilitate the escape from the exercise-ground within of the Fenians, Casey and Burke, who, however, were in their cells at the time. The repair of the wall, which is 2 ft. thick at base, could be seen plainly from he roadway, but is now hidden from view by a hoarding. Within the southern wall stands, for the present, an entrance-lodge, which is said to have formed the original watch-house, or parish lock-up; and containing a room wherein, so goes the tale, Jack Sheppard was for a time secured. So, similarly, the site of Coldbath Fields Prison, where still stands the main gate, but without its fetters and inscription and dates,—"1794 Middlesex House of Correction 1866,"—is gradually being covered with premises for the Parcels and Telegraph Engineering Works Services of the Post-office. This prison was acquired under the Post-office Sites Act of 1889, at a valuation of 96,000*l.*, the county justices having declined to take re-conveyance of the property at 186,900*l.*, equivalent to 120*l.* per cell. It was enlarged and re-modelled in 1830 by Robert, father of the late George Sibley, C.I.E. The Postmaster-General decided a few days since, under the Act, to pay to the London County Council 10,000*l.*, in lieu of accepting their offer of 8,443*l.* for a portion,—about one-twelfth of the entire 8¾ acres,—of the land which the Council desired to purchase as an open space.

MR. ALDEN H. BROWN, of the University of Iowa, has recently published the result of some investigations he has made to find out how far microscopic examination may be used as a means of determining the physical properties of cements. He points out that different cements vary in appearance, and from this he argues that there might be a still further difference in the appearance of the particles. This supposition was well borne out by fact when a high-power microscope was used. Without the aid of illustrations, showing the appearance of the various cements as magnified, it would be difficult to give details of the investigations, but in concluding his account, Mr. Brown says:—"I think I am not claiming too much when I say that I believe that the relative values of any two cements may be determined by a microscopic examination by observing the following rules:—1. See which cement has the greatest angular vitreous particles. 2. Notice the transparency of the particles. 3. Notice the amount of foreign matter present."

AS announced in an advertisement in this week's issue, the concluding Part of the "Dictionary of Architecture," letters T-Z, forming volume 8, will be issued early next year. That volume and those preceding it will soon be out of print, and those who desire to complete their copies should do so without delay.

THE TRAINING OF ARCHITECTS TO THE PURSUIT OF ARCHITECTURE:

PAPER BY MR. T. G. JACKSON.

AT the meeting of the Architectural Association on the 11th inst. (Mr. F. T. Baggallay, President, in the chair), Mr. T. G. Jackson, M.A., read the following paper:—

Mr. President and Gentlemen,—When you asked me to address you this evening on some matter connected with our common calling, it seemed to me that I could not do better than choose for my subject that of the training of architects to the pursuit of architecture. It is a subject about which more has been said and written of late years than at any time before. It is a subject, too, about which there is, perhaps, more difference of opinion among us than about any other connected with our craft. That some better system of training young architects in the way they should go is desirable, seems admitted on all sides. For although the advantages of pupilage or apprenticeship are so great that they are not likely to be given up, still the student must of necessity supplement the experience gained in his master's office by study and reading of his own; and the office is and should be to him rather the place where he may expect to see put into practice the lessons he has learned elsewhere than the place where he can expect to be taught directly everything that he ought to know. He has, therefore, to join classes at art schools and to enter on a course of reading, sketching, and independent study of his own; and it is here that his troubles begin, and here, too, that he is likely to be perplexed by the totally different courses that are proposed to him.

The first nostrum that is offered him is one that is at first sight quite beside the mark,—examination. To his demand for instruction, the Royal Institute of British Architects replies, "We don't profess to teach you; you must get taught as you best can, but if you will come to us afterwards we will examine you."

Now, the question of examination is not exactly our subject to-night, but it touches it in so many points that it cannot be avoided. For the present, however, we will pass it over, and by-and-by I shall find it necessary to say something more about it. After we have defined, with what preciseness we may, the kind of training and instruction necessary to make a man a tolerable architect, we shall be better able to judge how far the test of examination is applicable to it.

A better answer to the demand is that which you yourselves of the Architectural Association have given. The voluntary or mutual system of instruction which you have for so many years usefully carried on, is now being expanded under your new scheme into a wider and more complete plan of architectural education which, if it is properly carried out, ought to go far towards supplying the want of which students complain. You are just at the beginning of a new career; it rests with you either to make it barren or fruitful; the question of its future usefulness depends entirely on the direction you give it at first starting,—whether you shape it on the old lines of text-books and stale examples and conform it to the cut-and-dried rules of a hard-and-fast curriculum, or whether you guide it with a lighter and more liberal hand, and, recognising that all men are not gifted in the same way, give to your system that elasticity which will enable each student to develop any special gifts he may possess. The success of your scheme will, in fact, depend entirely on the view you take of the student's needs and of the nature of the instruction that will do him most good.

What, then, is it that the student wants to be taught in order to become an architect?

In the first place it is clear he must learn how to build well. Construction, planning, choice of material, and the proper use of it according to its nature, are not architecture, but they are the foundation of it; and, more than that, it is they that have moulded all the architectural styles that have ever really lived into the form by which we know them. But skill in construction and knowledge of building materials will not suffice to make the architect. He must not only be a good constructor, but he must know how to construct artistically as well as solidly. What architecture does for building is to give it the means of expressing itself, and of expressing itself with beauty and propriety. It does for building what the actor does for the play. The play may be written as well as you please, the repartee may be brilliant, and the dialogue sparkling; but if you drawl it out in an inexpressive monotone you will at the utmost convey the bare meaning of the words, and you will awake no emotion. But let the actor declaim the same words with passion and feeling, and he will make you ready to start from your seat, or draw tears to your eyes. Just so with our art; two designs may be equally good in point of plan, convenience, and construction, but the inartistic design, which stops with mere building, will give no pleasure and rouse no emotion; while the other, in the hands of an architect worthy of the name, arrests your attention and delights and satisfies the sense.

But though good building must precede good architecture, do not think that architecture is a sort of ornamental varnish that may be laid on to something else that is brought to it ready made. It cannot be applied to a building by way of improvement in the same way as you put gilding on to a picture-frame, or butter on to bread. Your art and your construction must go together, hand in hand, from the very beginning. From the very first you must work with a view not only to strength and convenience, but also to beauty and fitness; from the first your plan and your architectural design must grow up side by side. While you contrive approaches and arrange your rooms, your mind will be busy at the same time forming a picture of the building as it will work out on these lines, and as you go on you will shift a room, or a wall, or a pillar, recess one part, project another, or drill the whole into symmetry according to the architectonic idea in your mind, and to the character you wish the building to have. All this will advance *pari passu*; there is no especial moment at which one can say, "Here architecture comes in." It has been there from the beginning, inseparable from the plan and construction, affecting and modifying them in a hundred ways, and being affected and modified by them in its turn. For their influence is reciprocal. If it is bad to study construction independently of architectural considerations, it is, perhaps, worse to study architectural design apart from construction. It cannot stand alone. Construction is the framework or skeleton on which the figure is modelled, and if you deprive it of its backbone, architecture falls into a helpless mass of powerlessness, as incapable as a jelly-fish.

This, then, is what the student of our craft has to learn in the first place, and as the key to all that follows,—*to construct well with an artistic motive.* Mere constructive skill will make him an engineer, but will never make him an architect; and mere acquaintance with architectural forms and skill in reproducing them may make him a good draughtsman, but will never make him an architect. Construction and design must be learned together, not as separate studies, but as one simple subject to be mastered by everyone who aspires to be an architect.

Now, while there is abundant opportunity for learning building construction pure and simple, irrespective of æsthetic considerations, there is no school, so far as I know, for teaching construction in the architectural sense which I have indicated, and here is a want that your new Studio may admirably well supply if you manage it aright. By way of making quite clear what I mean, let me make some remarks on what I saw there a few weeks ago when at your invitation I attended as Visitor of the Advanced Class of Design.

Among the designs that were then produced were several that showed considerable promise. Mistakes in planning, of course, were to be found, but they were generally of a kind that experience would easily correct. What struck me as especially amiss was that the authors of these designs had seldom or never really considered how their designs were to be carried out. There were open-timber roofs that looked pretty enough on paper, but which I was obliged to point out could not be constructed, because timber was not to be had 3 ft. wide. There were arches, graceful and stately, which, for want of proper abutment, would infallibly have brought the building to the ground. But the worst was that the designers showed so little appreciation of the scale to which they were working. The drawings were all to the scale of 8 ft. to an inch, and few of the students had thought what would be the effect of their details when enlarged to the real size. Some of them, when asked to sketch to a larger scale a section of the jamb of their windows or doors, were unable to do it. They had never thought about it, any more than they had about the scantling of their timbers, or the abutment of their arches. Now, these are examples of design being studied apart from construction, and I should like to repeat here the suggestion I made there,—that every student as he goes on with his design should make detailed drawings to a larger scale, or sometimes full size, of each piece of construction, or each architectural feature. He could not fail then to know his own meaning. He would not be misled by his own small-scale drawings, than which nothing is more deceptive even to an experienced eye, much more that of a student. This year, among the designs sent up for the National Art Prizes at South Kensington, was one which showed considerable ability, and was drawn in a taking way. A scroll of simple foliage, delicately touched in, filled a space over a doorway, and in the drawing looked very well; but measurement pitilessly exposed the fact that the leaves were 4 ft. across, of which the author was probably quite unaware. He had been deceived by the scale of his own drawing, and had he been going to erect the building he would have had to alter his design; for with his absurd leaf the panel which it fitted would have had to go, and the whole composition would have been affected. There were submitted for competition numerous other designs where construction had been altogether ignored or evaded; domes and lanterns with no visible means of support, and so on; but I have selected this simple instance because the author had evidently to a certain extent considered his design properly and thought it out, and would not have made this mistake had he taken the trouble to make a working sketch, however slight, to a larger scale.

Another suggestion I ventured to make in your Studio the other night was that besides being always required to draw details of the design to a large scale, the students should proceed to write a short specification of the work. What is a specification? I do not mean the senseless farrago of repetitions and stock phrases that some people write, but a sensibly written document, with no unnecessary verbiage. It is simply a letter to the workmen telling them once for all what, if you had no specification, you would have to tell them bit by bit as the work went on. You forestall the innumerable questions the workmen would have to ask when the occasion arose, by writing their instructions down for them before they begin. But it serves another purpose as regards yourself. It forces you to define to yourself your own intentions. It perhaps reveals to you something in your design that will not do, and compels you to alter it; it obliges you to fix the notions that were floating in your mind, so as to admit of being put down in black and white; and it discovers to you any point on which your knowledge is imperfect, and about which your ignorance may need to be enlightened. I venture to suggest this as an excellent corrective to the tendency to fanciful and unpractical design, of which I saw signs in your new Studio, and which cannot too soon be reduced to the stern rule of common-sense and necessity.

Let this, then, be the first rule of your Studio, that every student should make it clear to his own mind, and to that of his teacher, how his design is to be carried out,—how the thing he is designing is to be made; and, if he cannot explain this satisfactorily to himself and others, he should be told that it is of no use his going on till he has cleared up the mystery and solved the problem in a satisfactory way as regards both sound construction and good artistic form.

The great importance of this becomes evident when you consider what it is that an architect is called upon to do when he has a building to erect. Unlike the painter and sculptor, he does not produce his result by handling and shaping the materials himself, but by directing others how to do it. Remember that it is your work to design for craftsmen. What you draw on paper they will have to make somehow as best they can, and if you do not know how your own designs are to be carried out, how are they to know it? As you are working out your plans and elevations, try and put yourself in the place of the clerk of the works or foreman who will have to work from them; ask yourself what explanations he would need, and amplify your details and descriptions to meet his imaginary wants. In this way you will avoid making mistakes and omissions which might upset your design, and which otherwise you might not be able to detect; and you will discover to yourself your own ignorance and see what it is you have still to learn.

And while I am on the subject of your drawing-classes, there is another suggestion that occurs to me, and that is, that the students should as early as possible be accustomed to put their designs into perspective. Nothing is more misleading than the habit of designing in elevation. An elevation is nothing but an upright plan, just as a plan is, if I may so put it, a horizontal elevation. Both are mere conventional representations, mere working diagrams, correct for use with rule and compass, but conveying no idea of the effect of the design. You may take it for a general rule that a building which looks well in elevation rarely looks well in perspective, and as we see buildings in perspective, and never in elevation, you will readily see which of the two ought to be first studied. My own practice, except in the simplest buildings where I can trust my experience without trial, is always to start a perspective at the same time as the elevations, and when the building is got to look right in perspective, I work back from it to the elevations, and alter them to suit the perspective. And this I would strongly recommend to your students as the best way of shaking their confidence in geometrical drawing, and teaching them as they go on to consider how the proportions and dimensions they are adopting will strike the eye in actual work. Some of the best among the designs which were shown me the other night would have come out in perspective very differently to the intentions of their authors, and, I fear, have caused them considerable disappointment. It is a common joke against architects that they take in unwary clients by showy, attractive drawings, that hold out a promise which the building fails to realise; but I am sure that architects themselves are quite as often taken in by their own pretty drawings, which come out very differently in bricks and mortar from what they appeared on paper.

So much, then, as to drawing, which, after all, is not the main thing: for our drawings, it should be borne in mind, are not to be regarded as works of art, but rather as diagrams to explain the design to those who have to realise it. The design is the great thing, and the main object of an architect's education should be to train him in habits of design, to strengthen his imaginative powers by exercise, and to correct his taste by showing him good models. Two things are necessary to him,—imaginative power, and knowledge. No one can give him the former, and if he is quite devoid of it, it is useless his thinking of being an architect. But it is not necessary to have genius in order to turn out very fair work; work which is quite capable of giving a great deal of pleasure, much more than that afforded by the efforts of genius when misdirected and ill-applied. "If you have great talents," says Sir Joshua Reynolds, "industry will improve them; if you have but moderate abilities, industry will supply their deficiency. Nothing is denied to well-directed labour: nothing is to be obtained without it. . . . . I will venture to assert that assiduity unabated by difficulty, and a disposition eagerly directed to the object of its pursuit, will produce effects similar to those which some call the result of natural powers." Moderate powers of imagination will grow stronger by practice, by observation, and by discipline. They can, in short, be educated, like any other faculty.

The other necessary qualification, knowledge, depends on the student's own industry, assisted by proper teaching, and this assistance you now propose to give him. Some things he will learn from books; the history of his art can be acquired only by reading, and some knowledge of it is, of course, indispensable, while, if he has time for it, he cannot know too much. But let him be on his guard against thinking that a historical knowledge of art will do anything of itself to make him a better architect. "A perfectly illiterate man," says Sir Joshua, "will never make a great artist;" but all the same a man may be a very good artist without being a man of letters. It is impossible that every student of architecture should attain the same literary culture, nor is it necessary. No doubt the more you love your art the more curiously will you study its history, but do not suppose that by learning the names, dates, and history of the authors of the buildings of the past you are studying architecture. You are merely following an interesting and natural course of antiquarian research, which it is most highly desirable that you should follow, but take care to disabuse yourself of the notion that it will help you in the least degree to be a better architect. Not that I would in any way dissuade you from these studies if you have time and taste for them; they are not architecture, it is true, but, at the same time, if you are nothing but an architect you will be a very dull fellow; only, distinguish carefully in your mind between the study of your art and the study of its history and antiquities, which is a totally different pursuit. As an art-student you must of course understand the sequence of styles, and their characteristics, how they grew out of one another and, in their turn, developed into something new; but in that capacity you will have nothing to do with the social history of the age of which they formed the outward expression. Your business is with the value of ancient buildings as works of art; if you admire them, analyse the causes which make them beautiful; if you are disposed to criticise them, do not be deterred by any reverence for their antiquity, but judge them fairly to the best of your powers. Look at them with your eyes open, appraise them without prejudice, try to understand them without being blinded by the charms of old association and historic interest, and in that way you will get from them all the help they are capable of giving you in your architectural training. In short, be an artist first and an antiquary afterwards, remembering that your vocation is not the study of the art work of the past, but the creation of works of art in the present.

With this point in view, do not confine your study to old work. Watch also the current architecture of the day, so far as it is worth watching. It has always been the laudable practice of your Association to visit new buildings and works in progress, and you cannot do better than continue that practice in the future. When one does find good modern work, there is something about it more inspiring and stimulating than there is about old work, however superior the old work may be. You feel that your own case is not hopeless when you see good work done by your friends and contemporaries, who are within your reach, not removed, like the great masters dead and gone, who speak to us only by their works. You there see also the application of novel materials and new ways of using the old, and you find in them suggestions for new design on your own part; and if there be any real life in the work you are studying, it cannot but be enlivening to be brought into contact with real living art in your own day and country.

Bearing the same point in mind, let your reading be of a practical kind. Besides books of technical instruction in carpentry, masonry, brickwork, and so on, read such works on architecture as deal with it from the constructional as well as the historical and æsthetic side. There is no better reading of this kind than is to be found in Viollet-le-Duc's great Dictionary; his conclusions are sometimes fantastic, and his judgment prejudiced; but if you read carefully his article on "Construction," which occupies nearly a volume to itself, analyzing and making notes as you go on, you will rise from it a wiser man, and will have got a better understanding of the nature and motives of Mediæval architecture than by any

other reading I can tell you of. There is nothing comparable to it, unfortunately, in English; and, indeed, considering the mass of printed matter about architecture, it is wonderful how few books there are of any direct use to the student. Encyclopædias, dictionaries, and hand-books there are in plenty, but few of them go really deep into the subject. A work that professes to treat of all known styles, ancient and modern, within the boards of an octavo volume or two, cannot be more than superficial. Even Fergusson's books, excellent as they are,—capital, as far as they go,—are more useful to the amateur than the student.

Above all, do not try and make yourselves all at once encyclopædias of architecture. Confine your study at first, and, indeed, to a great extent all your life afterwards, to those styles which practically concern our modern use. Egyptian, Assyrian, Persian, and Indian architecture are interesting studies, and no educated man would like to be entirely ignorant of them; but the knowledge which contents an ordinarily educated man will suffice for you. Dare I say the same of Greek art? I approach the question with some trepidation, but to speak honestly, I should say that it may safely be put on one side by the student, and regarded, even in his riper years, rather as a splendid illustration of what art can achieve under certain conditions than as having any direct bearing on his own work. With Roman art it is different: as the system of Roman polity permeates our civil constitution, and the roots of Roman speech intertwine themselves with our language, so did Roman architecture, in its progressive transmutations, give birth to all modern European styles, both those of the Middle Ages and those of the Renaissance. Roman art must be studied, though to my thinking,—I say it with diffidence, and the consciousness that many of my hearers will disagree with me,—it is most interesting when regarded in its parental relation to the styles to which it has given birth, and which will naturally be the main objects of your studies.

But it is not by reading books and studying illustrations that you will learn practical architecture. Reading about things is very different from seeing them; you will learn more by one visit to an actual building than by pages of description. Accustom yourself from the first to regard your books only as guides to teach you what to look for in real buildings, and follow up any course of reading by going to see for yourselves the things you have been reading about. In the same way do not think that by drawing in an architect's office you will ever learn how designs will come out in reality, or even that you will thoroughly understand the meaning of your own drawings. Go, if you can, to the building itself; see for yourself how the details work out; how the different parts are constructed, what difficulties they present, and how the workmen surmount them. I have always recommended my pupils at the end of their term to put themselves for a season under a clerk of works, and help him to set out the work and direct the workmen. I cannot say they always take my advice, but those who have done so have not failed to benefit by the practical knowledge they gained. Remember that your calling, as I said before, is to design for craftsmen, and this you will not do successfully unless you have a practical knowledge of craftsmanship yourself, which is not to be gained from books or in the office, without resort to the building-sheds, the scaffolding, and the workshop. What can be more absurd than to sit all your days indoors designing things which you never see made? You are safe only on the condition of copying accurately what has been done before, because, knowing nothing practically of the working of materials, you may, if you quit the strict path of precedent, be using your material improperly, wastefully, and at the same time ineffectively. Take, for instance, the very common error into which architects have fallen in their use of marble. You have been used to stone, and when an opportunity occurs of using marble, you think you have only to go to work in the same way and your work will be as much finer than masonry as marble is finer than stone. You know, indeed, that marble was not treated in this way of old; but you think, perhaps, you can improve on the flat surfaces, the shallow sinkings, and the superficial mouldings of the old men, and do something bolder and better; and so you proceed to work it into the roll mouldings and deep under-cuttings to which you are accustomed in stone. The result, if you have anything of the artist in you, will disappoint yourself. One has seen too often examples of marble spoiled in this way with extravagant waste of labour, and an effect, after all, inferior to that of stone. They have failed because the architect has misused his material, and this most likely because he has never practically studied the way of working it. Had he accustomed himself to watch carvers and masons working marble laboriously with drill and chisel, he would have seen why marble was always treated by the masters of old with shallow sinkings and square returns, without under-cutting, and he would have learned that the plain surface treatment he despised was needed to give due effect to the colour and texture of the material. He might even have risen to the notion that Classic architecture itself, which is largely a marble style, derived its peculiar details from the convenience of the masons who had to work this stubborn material.

Take, again, the case of wrought-iron work. You know from old examples and from drawings, that ironwork can be twisted and hammered into certain forms, and welded together while hot; but you have never seen a weld made, or a scroll beat or hammered into shape. As long as you keep to designs that have been done already you may escape disaster, but if you have the right stuff in you that makes an artist, you will soon grow tired of that, and want to design something original. You make your design, and write your instructions with a light heart,—"Weld these together,"—and so on. As a matter of fact, perhaps the smith cannot weld them, for reasons unknown to you, but he puts the work together in some other way, as like your drawing as he can, and very likely you are satisfied. But the work nevertheless is a sham: you designed it for welding, and the smith has made it look like welding, when it is really nothing of the kind. Now had you gone and seen him with your drawing, and watched him hammering the iron, you would have understood his difficulty at once, and if you were really an artist you would there and then have taken out your pencil and altered your design to suit and express the methods to which the smith was obliged to have recourse.

I might go on with examples from all the other trades,—how, for instance, the work of carpenters and joiners is often doubled uselessly, and the expense also doubled uselessly, by framing being contrived so as to force the craftsman to do by chisel what with a little management you might just as well have enabled him to do by plane. This would be obvious to you at once if you were familiar with the workshop and saw how tools were used, and how labour might be economised. But time forbids me to dwell longer on this subject; you will easily extend to all branches of construction and design the lesson I have tried to point in the foregoing instances. The sum of the matter is that there is no such thing as successful design without the legitimate use of materials; in this lies the secret of good and economical construction, and of expressive design. Without it you may sit all day in your office inventing fresh designs, but they will one and all be worthless. And the knowledge necessary to enable you to design sensibly, so as to make the best use of the means at your command, is not to be had from books, but from actual study of good work, both ancient and modern, and from actual contact with handicraft and handicraftsmen. I trust, therefore, that your educational scheme, which is now in process of elaboration, will include some mode of bringing your students into the workshop among the workmen, not of one or two only, but of all the trades in their turn which it concerns an architect to deal with in the course of his practice. I believe there would be no difficulty in this, so far as the craftsmen are concerned. Nothing would do more to help their work than to have a body of architects to deal with in the future who knew something practically of the trades for which they made designs and specifications, instead of men who, for want of knowledge, frequently set them unnecessary tasks and lay upon them unprofitable labour. I would even go further, and say that it would be extremely desirable that every architect should actually learn some handicraft, so as to understand its difficulties and its possibilities; and, by learning these in the case of one craft, he would be better able to appreciate them in the case of the others. But, even if you stop short of this, you may at least approach yourselves to the handicrafts in the way I have suggested, by shutting your books and flying off to the workshops, and so learning how to design in a way that gives the workman no unnecessary trouble, makes the most economical and reasonable use of the materials, and satisfies the canon of art which requires that design shall be based upon construction, and be the outward expression of it.

This brings us back to what I said some time ago, that the main thing an architect had to learn was *to construct well with an artistic motive*. Let us compare this definition with that lately put forth from an authoritative source, and see how they agree. The President of the Royal Institute of British Architects, in his opening address on November 2, defines the ideal architect as "the man who unites the qualities of an artist, a constructor, and a man of business." Against this, so far as it goes, I have not a word to say. The inseparable connexion,—I do not say between architecture and construction, because architecture includes construction,—but between design and construction is the text on which I have been enlarging to-night; if I have said nothing yet about business qualifications, it is not because I under-value their necessity, but because I have been talking solely of architecture; and business qualifications, though as necessary to an architect as they are to all who mix in the affairs of life, are not architecture, and, moreover, cannot to any very great extent be taught.

But the President goes on to say, "It is given to few to excel in all [these three qualifications], though there are many who, possessing a general knowledge of each, are proficient in one or the other. And is one who is distinguished by artistic taste to regard with indifference, or a species of contempt, others who may be less artists and more scientists? Or is one whose genius is construction to look askance at others who are more purely artists?" He does not go on to put a similar question with regard to those whose genius is more for business than for art or construction, whose claims to be considered architects he apparently did not find defensible.

Now here I venture, with all respect to the President, to think he is wrong. As Mr. Norman Shaw points out in his letter to the *Times*, "He divides those who practice architecture into three classes: first, those whose proclivities are artistic; second, those whose genius is constructive; and, third, those who, *par excellence*, are men of business. We also make this distinction, and are fully alive to the necessity of good construction; but we think that the men forming the two last divisions are, *as such*, not architects at all. The scientific constructor already exists in the engineer, the business man in the surveyor and commission agent."

Now, if it is possible to take an engineer or a surveyor, and by endowing him, to use the President's words, with "a general knowledge" of art, thereby to make him an architect, then good-bye to architecture as an art. I have in that case been merely wasting words to-night in trying to explain that architecture is not the result of adding more or less of art to sweeten the bitterness of construction or enliven the dryness of business, but a ruling motive, which must be present from the very beginning, and inspire and govern the construction itself. This view is totally irreconcilable with the officially-pronounced view of the Institute, that a "general knowledge of art" superadded to sound business habits or skill in construction will suffice to make a man an architect.

This definition occurs in the course of the President's defence of the system of examinations conducted by the Institute, and imposed as tests on all who seek to become members of that body. And, as our subject to-night is architectural education, it is time to say something on this matter of examination, about which there is, as you know, great difference of opinion, not only between the Institute and outsiders, but even within the Institute itself. Examination is the contribution of the Institute to the cause of architectural education. "We do not teach," they say, "but we examine." Their theory is that the necessity of preparing for examination will direct the student in the course of his studies and give him system in his reading. I hope to show you that so far from these examinations being a help to the education of the beginner, they are, in fact, only a hindrance and distraction.

In the first place, they put before him a wrong motive. He learns, not in order to know, but to pass, and he will get no solid good from study pursued with such an object as that. Looking to examination as his goal, he will not, —dare not,—work in any direction that does not lead that way. He may have a special bias to some particular branch of architecture, and desire for a time to give himself to it exclusively, but he cannot linger; the Examination awaits him and he tears himself away and dilutes his attention to spread it over the whole field of architecture. He may know himself to be ignorant of some other branch of his subject, and wish to work it out thoroughly and master it, but he knows it will not pay with the examiners, and he is forced to content himself with that superficial knowledge which is all he can hope to master in the time and over so large an area of subjects. The system which was promised him for a guide and help proves only a clog to his progress. Let me quote the admirable remarks of Professor Aitchison on this subject:—

"System is an excellent thing, and if it only means the inclusion of what an architect must know, nothing can be said against it. But a man must take care that system does not prevent him learning anything. I have been through examinations, and when I started to prepare myself I spent several days in laying out a systematic course of study, and I endeavoured to follow it, but I found there were subjects that I could not master in the time set down for them. If I had stuck to this systematic system I should have learned nothing; and what I had to do was to learn the subjects and ignore the system."

But, we are told, the examination has the inestimable advantage of enabling the students to test "the extent and accuracy of their knowledge." I believe it does nothing of the kind. On the contrary, it enables them to play off their shallow knowledge, or perhaps that of their crammer,—for that worthy has, I hear, already appeared on the scene,—against the wits of the examiners. In order to pass, the candidate must answer a certain number of questions on a wide range of subjects. It is a pure chance what he will be asked, and he loads his mind with a general superficial knowledge, —a kind of mental dust-shot,—which spreads so wide as to be sure of hitting something, though it will not penetrate very deep. This is not the kind of examination that enables the student to test his own knowledge. It is not like the examinations of pupils by the tutors under whom they have been working during the term, the object of which is to ascertain whether the lessons have been properly understood. It is not like the examinations at the Universities of Oxford and Cambridge, where, again, the subjects are clearly defined and have been all taught during the collegiate course by the same men who examine. The Institute examinations are totally different, for though it examines, it does not teach, and has no students.

But the most fatal deception practised upon the innocence of the student is the pretence that it is an examination in architecture at all as an art. It is an examination of what can be learned from books and drawings, but contains no test that the student has ever carried his knowledge afield and tried it in the actualities of life. Accepting for the moment the President of the Institute's threefold division of architecture into art, construction, and business habits, it is evident that only one of the three can really be brought to the test. You may examine a man in construction, no doubt, that is to say, in construction apart from art, but how are you to examine him in his business qualifications? I acquit the President of including among these the extraneous pursuits which many men follow besides architecture, such as belong to the land surveyor and estate agent, the lawyer, and the speculator in building schemes,—a class of pursuits so foreign to architecture that no man who follows the two can hope to succeed in both. I assume him to mean such a faculty for keeping expenditure within bounds, and insuring that his employer gets his moneysworth, and of controlling the builder and workman with tact and good temper, as is necessary, if things are to go smoothly and well. But who is to examine the student in that? In the first place, it is a matter of habit which can only be acquired by actual experience, which the young architect can only learn as he goes on, for assuredly no one can teach it him; and in the second place it is largely a matter of natural tact and temperament, which may be improved, but cannot be supplied if it is absent.

Still less is it possible to bring his artistic qualifications to the test of examination, if there is any truth in the picture I have to-night attempted to draw of what they should be. You may ask him questions in the history of the art: he may satisfy you as to dates and names, periods and examples, but, as I have already said, he may have all that at his fingers' ends, and yet be incapable of architecture. He may be a good antiquary, and yet remain totally devoid of imagination and sense of beauty, without which he can never be an artist. You will never invent any test which you can safely apply to qualifications of this kind; if you try to exercise it you will infallibly fail to keep out those who are unworthy, and probably also shut your door in the face of some heaven-descended genius whose originality you may fail to appreciate.

Observe, I entreat you, that this is not a question of examining for a prize, when you compare one design with others and give the reward to the best. That is easy enough and fair enough, and in its prize fund and scholarships the Institute has a grand opportunity for stimulating and distinguishing art students. But we are now considering a totally different kind of examination,—a qualifying one,—one for excluding or admitting a student primarily to the ranks of the Institute, and, secondarily, to those of the profession. For though the Institute at present disclaims any ambition to make architecture a close profession under their presidency, still it comes to the same thing, for they aspire to sweep us all into their net, and their dream of the final state of architecture is that every architect shall perforce have passed into the Institute through the gates of examination.

The illustrations by which the President tried to defend examination are altogether irrelevant. "Is not life," he seems to say, "one long examination; do not artists submit to examination when they send their pictures to the Academy; does not everyone who is employed practically submit to examination by his employer?" and so on. Now all this is really trailing a red-herring across the path. One might as well ask whether it was not by examination that butcher Jones secured my custom instead of butcher Smith. The examination we protest against is a *qualifying* one, one which you must pass in order to get your bread in a certain calling; and it is obvious that this is not the case with the President's illustrations. Painters who are rejected at the Academy are *not* debarred from selling their works to anyone who will buy them, and there is nothing in my dealing with Jones which prevents Smith from selling his mutton to other people.

I do not say that *in theory* it is absolutely impossible to construct a system of examination so rigid that every incompetent pretender to architecture shall be excluded. But who is to be trusted to keep the door? How many in a generation would be found worthy to pass it? For instance, if it were tried to-morrow, would all the present members of the Institute be found on the inside of the door, or would a good many be left gnashing their teeth on the outside? Such a system of selection is impossible, and yet anything short of it is a mere imposture and a sham. The majority of candidates are and must be mediocrities, and you will have to admit them with their middling gifts, and to suit your standard to their capacities. If you argue that they will at least be no worse for being examined, I reply that they will certainly be no better, and that at all events it would have been something not to have set your seal on them by way of recommending mediocrity to the public.

However, Examination is now the banner under which the Institute sails, and the next step is to be the extension of this test to the different grades of that society. The President asks why the Fellows are not to enjoy the same blessings as the Associates, and suggests that they too should be required to pass an examination for the higher degree. And so we go on till, if I may be forgiven for trifling with so serious a subject, one may imagine the Presidential chair thrown open to competition in order that its occupant may not be excluded from advantages of examination enjoyed by the inferior members.

I have dwelt at some length on this matter of examinations because at the beginning of your new educational system it is all-important that your students should make up their minds what they are trying for; and because, if your schools become mere places for training or cramming architectural students for passing examinations, you are, in my humble opinion, going the safe way to reduce them to uselessness, and to alienate the interest of all who look upon the study of art with different eyes. The note of alarm has already been sounded: when the Institute was considering the question of a grant of money to your schools, one speaker proposed that the grant should be given at the rate of so much a head for everyone of your students who passed the Institute examinations. How this was settled I know not, but I do know that the idea that this would be the main motive of your teaching has prevented several architects from aiding you whose advice and experience would have been of infinite service.

Believe me, that if you propose to your students such an end as this, you will be putting before them an unworthy motive, and your schools are predestined to barrenness. On the other hand, tell your students that they come here simply to learn to be architects, without any secondary aim: teach them architecture in all its aspects, constructive and utilitarian, but always in conjunction with good design; make them learn a few things at a time thoroughly rather than many things lightly; insist on their having a reason for what they do, and hold them back from a fresh step till they have mastered the first; bring them as soon as possible into touch with the craftsmen, and make them craftsmen themselves if you can; let them learn from things rather than from books, enlarging their knowledge by experience of technical methods, which is the readiest way of sowing in their minds the seeds of fresh elements of design; above all, teach them to keep bright by constant use such strains of originality as their nature possesses, and you will make your schools true nurseries of architects; though I think it very likely your students would be plucked in the Institute examination.

When I reflect that it is with you, gentlemen the younger members of our craft, and with those students whom you are now undertaking to train, that the hope of English architecture lies, it seems impossible to overrate the seriousness of the crisis. Your new schools may do much to help our art onwards, or they may aid in stifling it under the dull weight of professionalism. I put before you good and evil, artistic life and artistic slumber; it is for you to make your choice.

[A report of the long discussion which followed will be found on other pages of this week's *Builder*.]

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

EXAMINATIONS.—AMERICAN THEATRES.

THE fourth ordinary general meeting of this Institute for the present session was held on Monday evening last, at Conduit-street, the President, Mr. J. Macvicar Anderson, in the chair.

Examinations.

The President announced that a Preliminary Examination of sixty-nine candidates (out of seventy-four who applied) was held last month in London and Manchester. Of these, twenty-one were exempted from attendance, thirty-one were examined at the Institute under the charge of the Board of Examiners in Architecture, and fourteen in Manchester under the charge of the Manchester Society; and the Board reported that thirty-nine had passed, making, with the exempted candidates, a total of sixty passed candidates. Of the sixty, nineteen were London men, while the remaining forty-one were from all parts of the country. These gentlemen, whose ages varied from fifteen to twenty-three years, were now qualified as Probationers, and their names, returned in alphabetical order, are given in the current number of the *Journal* of the R.I.B.A.

Intermediate Examination.—The President announced that an examination of sixteen Probationers (out of nineteen who applied), to qualify for registration as Students, was held at the Institute on the 24th, 25th, and 26th of last month, and eleven, whose ages varied from nineteen to twenty-three years, had passed, while the remaining five had been relegated to their studies for a period. The names and addresses of the eleven gentlemen now qualified as Students, as placed by the Board of Examiners in order of merit, were as follow:—Messrs. R. W. Bedingfield, of Leicester, and W. C. Waymouth, of Highgate, N., bracketed equal;

and Messrs. R. Oldham, Ashton-upon-Mersey; G. A. Groves, Urmston, Manchester; F. H. Gorst, Blackpool; T. Honnor, London; T. J. Anderson, London; T. G. Lucas, Hitchin; H. E. Kirby, London; W. R. Gleave, Manchester; and F. J. Potter, London. The President added that this was the third Intermediate Examination yet held, though five Preliminary Examinations had been held—the first having taken place in 1889. Two years must elapse between passing the Preliminary and entering for the Intermediate, but, as in the present instance, there were exceptional cases in which a Probationer was permitted to enter for the Intermediate in less than two years. No Probationer, however, was admitted to the Intermediate who was less than nineteen years of age, and, having passed it, he was at once enrolled in the class of Students of the Institute, which now numbered twenty-eight.

The Qualifying Examination for the Associateship.—The President also announced that an Examination in Architecture to qualify for candidature as Associate was held at the Institute during the whole of last week; and forty gentlemen were examined, out of forty-eight who applied for admission. Some of them were architects in active practice, their ages varying from twenty-two to thirty-two years. Of the forty, twenty-six had passed, and fourteen had been relegated to their studies for a period. Of the twenty-six passed candidates, eleven were London men; while of the fifteen others, one was from Launceston, in Tasmania, and another from Toronto, in Canada; three were from South Wales, three from Yorkshire, two from Hampshire, and one respectively from Cumberland, Lancashire, Somersetshire, Staffordshire, and Sussex. The names of the gentlemen now qualified for candidature as Associate (their names being placed in alphabetical order) were as follow: — Messrs. T. C. Aguttter, Southsea; F. S. Baker, Canada; W. E. Barry, London; J. H. Beckett, Longton; H. Budgen, Llandaff; C. Burton, Ealing; T. G. Charlton, Carlisle; F. A. Coles, London; G. F. Collinson, London; H. S. East, Tasmania; J. E. Evans, Cardiff; M. Garbutt, London; T. I. Goldie, Bridgwater; W. C. Hall, Leeds; H. Helsdon, London; W. E. Hewitt, London; G. P. G. Hills, London; C. A. Hindle, Liverpool; A. E. Kirk, Leeds; F. E. Littler, Hastings; A. Mackintosh, London; E. Osborn, London; H. A. Saul, Leytonstone; A. H. Thomas, Haverfordwest; A. E. Tiller, Southampton; and J. R. Wigfull, Sheffield.

The Ashpitel Prize. — The Board of Examiners had also sent up the names of three gentlemen who had distinguished themselves in the Examinations in Architecture during the current year. At the two Examinations held respectively in March and December, fifty gentlemen had qualified for candidature as Associate, and of those the Board reported that Mr. John Begg, of Edinburgh, but now resident in London, had most highly distinguished himself, and was deserving of the Ashpitel Prize; and at the same time they highly commended Mr. Owen Fleming, of London, and Mr. Joseph William Twist, of South Shields.

In concluding his statement, the President said he wished to add some information likely to be of use to candidates applying for admission to the present Examination in Architecture, which would continue, without any serious modification, during the whole of next year, and until the autumn of 1893, when the last Examination on the present lines would be held. It was, at the same time, possible that special cases might occur in which it might be desirable to continue that Examination for a period; but it should be clearly understood that after the close of 1893 all those gentlemen who desired to qualify for candidature as Associate, except in the special cases referred to, would be required to enter for the Preliminary Examination, and, having passed it, work up through the Intermediate to the Final Examination, which would then take the place of the present Examination in Architecture. There consequently remained only four of such examinations for which young architects, who might have been in practice for a few years, and who desired to become Associates without passing the Progressive Examinations, could enter, and these would be held in March and November, 1892, and March and November, 1893. It was, therefore, desirable that those gentlemen who might not be prepared to enter for the Examination in Architecture before the close of 1893, should take immediate steps to secure admission into the class of Probationers, from which they would be able, after some preparation, to be admitted to the Intermediate Examination, and thus qualify as Students of the Institute.

American Theatres.

Mr. Horace Townsend, formerly of New York, then read a paper on American theatres. The author, in his introductory remarks, said that having been, during twelve years' residence in the United States, four years a practising architect, and the remainder a dramatic critic and writer, he had had exceptional advantages for studying the American theatre. The theatre was, as now understood, a comparatively modern institution, and less hampered by precedent or tradition than most public buildings; but certain influences caused all theatres to present a family likeness, though the features offered points of difference. It was a curious fact that the American theatre-type followed the French in having no pit, although the theatre in America had, from a historic point of view as well as an architectural one, generally followed England rather than France.

It was not until the middle of the last century that a permanent theatre was established even in New York, and, as far as could be judged, it was not unlike one of the smaller London play-houses of the same epoch. A generation or so ago, however, the Americans had become a theatre-going people, and theatres of pretensions such as the Old Bowery, the Academy of Music, and Walleck's, were built, following the English model with one important exception,—the pit. It was, he thought, the inherent democracy of the people which led to the planning of the theatre with its "pit" (a term unknown in America) on the ground-floor level, and to the abolition of all boxes save the four on each side of the proscenium. In every case the theatre, even at that date, was conceived on a simple and sensible plan, viz., an oblong block divided in three parts transversely, of which the largest was in the middle, occupied by the auditorium; the second in size at one end, devoted to the stage; while the third was again divided into three parts by lines parallel to the greatest length of the oblong, the central of the spaces being devoted to the main entrance, which thus led directly from the street to the auditorium, and in the space on either side were the means for ascending to the higher portions of the house. The very latest American theatres were planned more or less on the same broad lines, but for some score or so of years the theatres erected afforded very few points of difference, many being built from one set of plans. During the seventies, however, a great influx of theatre-building took place, but it was not until the close of that decade that a small theatre erected in New York introduced a new era of American theatre architecture. The Madison - square Theatre, presenting many original points, was the outcome of the talents of more than one man. Two brothers named Mallory provided the funds; an actor and manager, one Steele Mackaye, a portion of the ideas; and two clever young architects, Francis H. Kimball and Thomas Wisedell (an Englishman), the professional skill which put the theories into practice and materially improved upon them. Though the old form of horseshoe balcony or gallery, with the floor sloping upwards on one plane, offered excellent opportunities of hearing, people seated at the sides had a limited view. Those architects obviated that difficulty, and gained a fairly large seating accommodation in an auditorium of limited capacity by sloping the main floor uniformly upwards from the stage, which was raised but slightly above the level of the auditorium, and each row of seats on the main floor was raised about $4\frac{1}{2}$ in. above the one immediately in front. The balcony above this main floor was very deep, approaching in its centre much closer to the proscenium line than usual, but instead of the horseshoe curve the front was twice broken abruptly in its outline, being in the centre a little flatter than semi-circular, with the sides of an ogee form. Other details of the Madison-square Theatre were then given by Mr. Townsend, notably the arrangement of a double stage, the ventilation and warming of the auditorium, the picture-framed proscenium, and the overhead orchestra. Although the theatre was very successful, the practical good sense characteristic of the American people prevented a slavish imitation of it. Certain points, not being found wholly successful, were discarded, but the heating and cooling apparatus and the seat arrangements were, in the main, followed by subsequent designers.

The author then proceeded to point out the salient points of difference between the ordinary theatre in New York and London, taking, as an example of the former, the Madison-square Garden Theatre [not the building before referred to], and of the latter, Terry's Theatre. The Madison-square Garden Theatre was chosen by him as one of the first built under the new building laws, Terry's Theatre being also selected as of recent date. A noticeable difference was the greater space devoted to the stage and auditorium in the American theatre, though land was as a rule dearer in New York than in London, and rentals higher, while the population was less than half of that in London. Then there was the great simplicity of arrangement,—the main floor devoted to seats of one character and entered almost directly from the street; the balcony seated in the same homogeneous way, and reached by a broad and direct staircase,—and the readier accessibility of the dressing-rooms, some of which opened practically on to the stage, and none of them being below the level of the street: a point to be by no means overlooked. As regarded the warming and ventilation, the author was almost inclined to sum up the difference between the two countries by saying that the Americans heated and ventilated their theatres as well as cooled them in the summer, while the English did not; but he thought that might be beyond fair criticism. Certain it was, that in all the later theatres in America ventilation was as nearly perfect as might be.

Mr. Townsend dealt next with several other theatres in New York, giving a description of each, among them the following:—The New York Casino, by Messrs. Kimball and Wisedell, one of the most beautiful theatres he knew of; Palmer's Theatre; the Metropolitan Opera-house; the Broadway Theatre; the Lyceum; the new Fifth Avenue; Mr. Hammerstein's Opera-house; and Harrigan's Theatre. Though he had intended to be silent on the subject of decoration, he could not refrain from adding that London had no theatres that could be compared with the Metropolitan Opera-house, the Lyceum, the Madison - square, or the Madison - square Garden theatres, in that respect; each was distinctly individual and original, and distinctly pleasing in effect. Of other theatrical centres in America, Philadelphia possessed few theatres calling for remark. Chicago, now that McVickar's was burned down, principally the Auditorium, which was a truly American building, called a theatre, and on occasions serving the purpose of one; in point of fact it was an enormous hall, designed chiefly for great musical festivals and political conventions. The stage was most marvellous. It was worked by hydraulic pressure, and was divided into sections of a few square feet in area, each of which could be raised or lowered to any height independently of its neighbours by touching a button. No borders were used, but sky effects produced by a species of domed panorama. In Boston the author referred to the Boston Museum, the Boston Theatre, the "Tremont," and the Grand Opera - house, which was illustrated by working drawings lent by Mr. N. B. Goodnow, the owner, and described in detail. Mr. Townsend held it was characteristic of the American client to consider that the best was the cheapest in the long run, and to this was greatly due the growth of a healthy and advanced architectural school in the United States; and perhaps also it was on this account that the New York Building Law was adopted without question or murmuring. The Law was founded upon that of Vienna, and some sections referring to theatres were given by the author in considerable detail.

Mr. C. J. Phipps, F.S.A., in moving a vote of thanks to Mr. Townsend, criticised the paper rather freely, and denied that the Americans were so far ahead of English theatre-builders as might be implied by those who were not conversant with the subject.

Mr. Thomas Blashill, in seconding the vote of thanks, said that, so far as he could judge from the plans exhibited, American theatres were not in advance of our own in regard to the arrangements for ensuring the safety of the audience,—in fact, he thought we were in advance of the Americans.

Mr. H. W. Burrows having said a few words,

The Chairman put the vote of thanks, which

was agreed to, and, Mr. Townsend having replied to the criticisms made upon his paper, the meeting terminated.

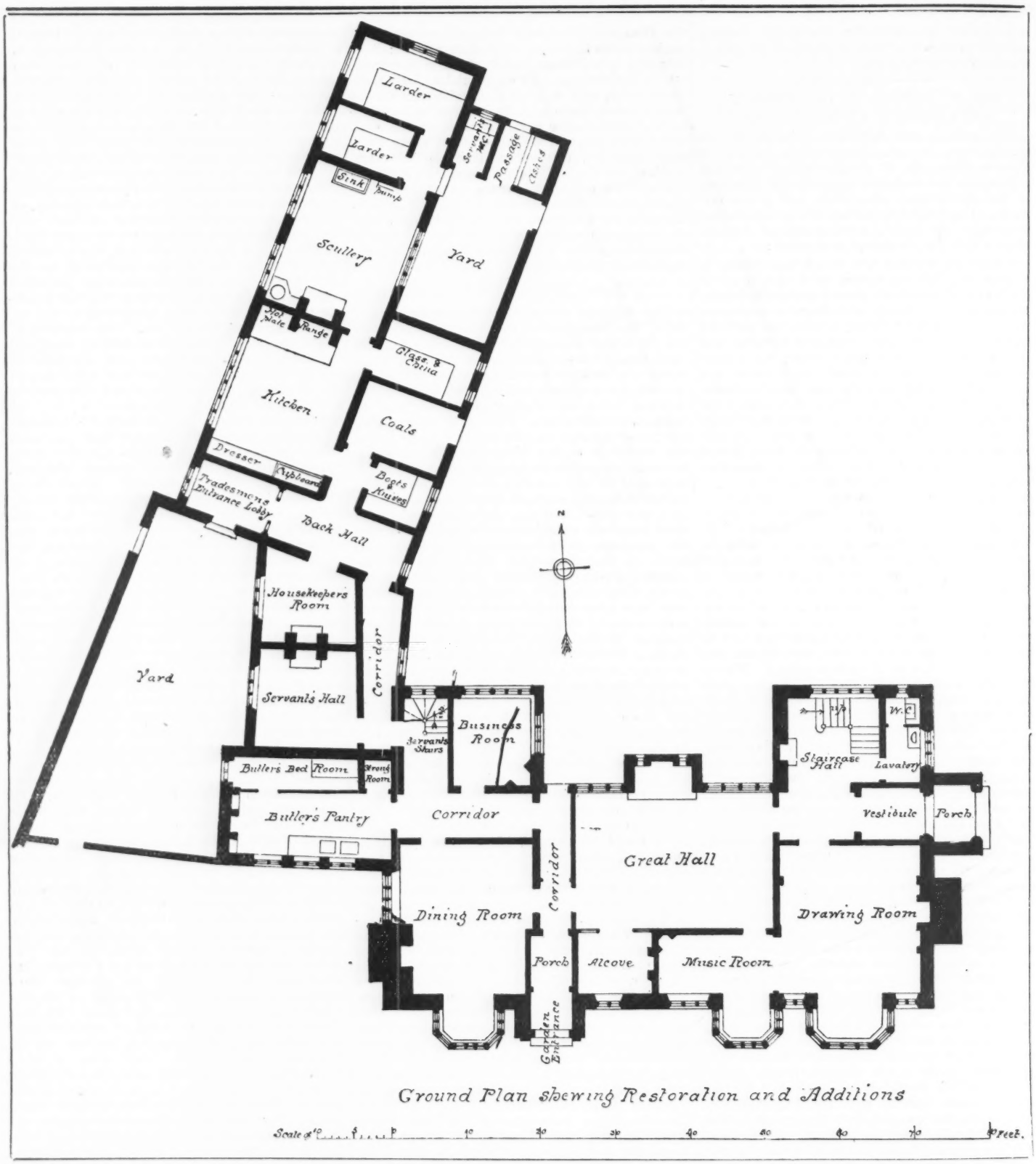
SIR F. LEIGHTON ON FRENCH RENAISSANCE ARCHITECTURE.

WE extract the following remarks on the architecture of the Renaissance period in France from Sir F. Leighton's presidential address to the students of the Royal Academy at the distribution of medals and prizes last week. The preceding portion of the lecture had dealt with the Gothic architecture of France, after which the President proceeded:—

"And now we turn to a wholly new phase in French art, the expression of a new order of ideas and of materially altered social conditions. During the fourteenth and fifteenth centuries the prestige of the fighting nobility had suffered much through the introduction of artillery and the reverses of the English wars; the middle classes, on the other hand, had under the favour of the kings steadily risen in importance. Before the end of the fifteenth century the printing press had begun to scatter knowledge far and wide. The discovery of a new continent across the Atlantic was stirring the imagination of the Old World. But it was a discovery within that Old World which was to exercise the deepest influence on the intellectual condition of France, the discovery of Italy, through the expeditions of Charles VIII. and Louis XII., for a discovery it may be called, though it must not be assumed that Italian influence was entirely absent in France until that period. Already in the middle of the fifteenth century René, of Anjou, himself a painter and the friend of the leading humanists of his time, had made his Court at Tarascon a centre of culture and of art, and employed the labour of Italian artists. Within the first half of the century, too, a great painter, Jehan Fouquet, had brought back from Italy a marked leaning to the new Classic spirit. Nevertheless, it was not until the return of the romantic stripling Charles VIII. with the flower of the French nobility from his futile and fantastic campaign that the desire for all things Italian took wide and lasting hold of the French,—at least, among the nobility,—and this enthusiasm, further whetted during the chequered campaigns of his successor, Louis XII., grew at a rapid pace. It was not, however, till the second decade of the sixteenth century that through the example of that brilliant *dilettante*, Francis I., the Italian contagion showed important results. Within the thirty-five years of his reign a host of palatial buildings were raised in a new style, which, if it had not, as had the style it pushed aside, the virtue of indigenous growth, was certainly marked by extreme charm and beauty. It was not, I say, of spontaneous growth, but neither was it a wholly alien product, for the people from whom it was adopted had in past times left on the more vivacious Gallic stock distinct traces of its blood, and the French have not ceased to this day to claim kinship with the Imperial race. Meanwhile, borrowed though the new style was, the French at once moulded it to their own genius, and produced a result distinctly personal to themselves; and the modifications they introduced in the Italian style were just such as you would expect from the different temper of the race. The restrained and sweet gravity which delights us in the purest examples of trans-Alpine Renaissance is, it must be admitted, too often wanting in the French work of the same class, and if, as I believe, the rank of a work of art is according to the dignity of the emotion it stirs in the beholder, then the creations of the great Italians rise to a higher level than those of the artists of the French Renaissance. For vitality and variety, on the other hand, for exuberance of fancy, for resourceful ingenuity of construction, and for a delicate sense of rhythm and proportion, the superiority of the work of the French is, in my opinion, conspicuous. Above all things, *it is their own*, and for this reason it seems to me that the jealous investigation which has been noticeable in recent times in France as to how far Italian artists have been unduly credited with the building of certain of the masterpieces of the Renaissance in that country is, however valuable in the interests of truth, of no great moment to the dignity of French art. Close study of documents has led, as is well shown, for instance, in Palustre's beautiful instalment of a 'History of French Renaissance,' to the dismissal of claims hitherto advanced in various cases in favour of Italian artists; it is bringing into greater prominence the names of native *maistres massons* whose claims had been underrated, men who had inherited traditions which made them greatly superior, as builders at all events, to the artists who came amongst them from beyond the Alps. But, apart from such inquiries, it is patent that all but every work of the French Early Renaissance, however it may have originated, bears the unmistakable stamp of the fusing energy of French genius. That the style was not born in France is a fact no one can challenge; that it was re-cast in that country into a distinctly French thing no narrowness could dispute.

French Domestic Architecture.

The keynote of the Renaissance movement being the assertion of the beauty of life and the dignity of man, its influence was naturally most felt in connexion with secular life. The great era of church building was past, and, indeed, for a population reduced by long and wasting wars the existing places of worship were not insufficient. The main determining motive of artistic activity under Francis I. was the ambition of the King and his nobles to multiply places of delight for their residence, especially in the country, and to replace by sights of beauty, such as they had learned to love and covet in Italy, the moated gloom of their ancestral châteaux, built and well-suited for purposes of protection and defence, but little in harmony with the tastes of the pleasure-loving Court and the light-hearted young King who led it. Prodigious and breathless was the activity with which châteaux were raised, first in the Royal province watered by the Loire, and then in and about Paris. It would be fruitless to enumerate at length even the chief of the stately buildings which from that time to the death of Henri III. occupied the energies of French architects; nor can I do more here than name a few of the foremost of these considerable men, such as in the first line Jean Bullant and Philibert de l'Orme, and in the second Colin Biart, Pierre Chambiges, Pierre Nepreu (*alias* Trinqueau), Gadier, Le Prestre, and Hector Sohier. It will be more profitable to note a few points in connexion with the evolution of the style itself. Although, as I have said, the great outburst of activity in the new direction coincides with the reign of Francis, Italian influence had already begun to assert itself in architecture as in other things in the preceding century, through Charles VIII., at Amboise, for instance, and more effectually under his successor, who built the east wing of the Château de Blois, and whose great Minister, Cardinal d'Amboise, raised near Rouen the magnificent Château of Gaillon, known to us now through a few fragments only, and the precious work of Du Cerceau. In these buildings, however, the French and the Latin elements are jumbled into a pasticcio rather than fused into a whole. As an interesting example of this confusion, I will instance the portal of the Ducal Palace at Nancy, in which the decorative magnificence of the whole design palliates the maddest marriage of heterogeneous forms ever conceived in an artist's brain. It is interesting to observe the attitude of a people possessing great building traditions and very definite æsthetic propensities, in the face of an innovation imposed on it, in a manner, from without, but stimulating to its sense of beauty and its appetite for the new. Two influences were adverse to the new fashion,—first, the spirit of the men of the burgher class, who clung to a style identified in their minds with their nationality and the growth of their liberties; and, secondly, the conservative attitude of the Church, jealous of an art so secular in its inspiration, tenacious, too, of a tradition of building closely bound up with its history and exactly moulded on its needs. We see, accordingly, on the one hand, the municipalities continuing for some time to build their public halls on the old lines, and, on the other, the clergy erecting Gothic churches well into the sixteenth century, and retaining the structural dispositions of ogival architecture even after the outer forms of the Renaissance had been accepted for sacred buildings. It is, indeed, not a little curious to see so logical a people, while holding firmly to their old methods of construction, consenting to abandon forms which had grown out of those methods, and were, in fact, the emphasised expression of that construction. We see with amazement edifices constructed on the basis of a predominance of the vertical line piled up painfully with tier upon tier of parts taken from a style based on the opposite principle. No talent can redeem so deliberate a violation of every fitness. As might be expected in the first efforts of the Renaissance building in France, the Classic orders were used in no very scholarly fashion; they were, however, it must be owned, handled and applied with a delightful sense of the picturesque, and, if severity and simplicity are often wanting, an altogether surprising alertness of idea and fertility of resource are manifest on every hand. In the case of secular buildings, the transition from the later Gothic was facilitated by the fact that square-headed openings prevailed already in that style, of which, too, the incontinence in ornament was acceptable to the exuberant spirit of the new art. The character of that ornament, however, was entirely changed; fantastic, foreign arabesque took the place of the floral decorations which had been one of the glories of the French school. Meanwhile the love for aspiring forms lived on, and the tendency to complexity died hard. The wealth of sky-line produced by spires and pinnacles was perpetuated in high-pitched roofs, turrets, and tall buttressed dormer windows. The sky-line of Chambord could have been conceived only by an architect having Gothic tradition in his blood. In other matters, too, we find the Gothic habit surviving. The external winding staircase, for instance, was long preserved, and you may see on a dainty façade of the time of Francis I. the survival of the grouped shaft in a fanciful colonnette engaged on the face of a pilaster. But most interesting to observe is the tenacious struggle of the vertical line throughout French Renaissance architecture. "The orders," with their bold entablatures, did, it is true, compel some stress on horizontal lines, though we shall see later how this restraint was in part evaded; but their effect was at once balanced by an emphasised vertical grouping, and uniting of the openings in the different stories, and by projecting wings, towers, and pavilions, which marked with perpendicular lines of shadow the elevation of the French buildings. Of the first period of the style the finest example is undoubtedly the south-west angle of the Court of the Louvre, by Pierre Lescot,—a great artist, though he may not wholly justify Ronsard's hyperbolic eulogy—a building made doubly stately by the fact that the reliefs which so richly clothe it are due to the hand of Jean Goujon, who, with Germain Pilon, marks the highest level of French plastic art in the sixteenth century. These reliefs display, like those from the same hand on the Fontaine des Innocents, in a marked degree that conspicuously French quality, the sense of the decorative properties of line and form. By this time the knowledge of classic art was becoming more thorough, and the application of its features more correct, and with a more Romanising spirit, if I may so call it, a tendency to larger forms grew up; so, at Ecouen first and later at Chantilly, we find Jean Bullant introducing what was called the *ordre colossal*, an order, that is, embracing the whole height of a façade. A greater aspect of strength and stateliness no doubt attached to this new disposition, and the dying out of Gothic traditions of commonsense blinded him to its inherent incongruity. But even in adopting this purely Roman device his Gallic blood prompts him irresistibly to a flouting of the horizontal line. He does so with curious thoroughness in the Pavilion which bears his name at Chanti ly. Not only does he here omit any line hinting even at a division into floors, but of the windows in the upper and lower stories, which are compacted into groups of vertical designs; the lower plunge downwards through the base which carries the order, and the upper, breaking audaciously through the broad entablature of that order, lifts itself bodily and to nearly half its height into the roof. A most corrupting spectacle, my young friends, I fear; for justice bids me add that the effect is very pleasing. Thus genius, but genius only, redeems what in mediocrity would seem a sin. But Bullant was yet to be outdone, for in the design of the inner court of Charleval,—a work begun under Charles IX., but never carried out, and known to us only through Du Cerceau, who speaks of it with extravagant praise (Lübke suggests that he may have designed it himself), we see not only the same omission of floor line, but, actually,



Ground Plan shewing Restoration and Additions

Scale of 10 feet.

niches with statues so introduced that they cut across the exact spot where the floor lies, so that an effort of reflection is required to assure us that a floor *can* exist there. Philibert de l'Orme, the learned and courtly engineer, architect, and writer, was, as far as we can judge from the fragments of his work which survive, and the knowledge we have from Du Cerceau of his designs for Anet and the Tuileries, an artist of well-balanced mind and scholarly training, whose conceptions are marked by dignity and refinement, but in whom the stamp of genius is not so evident as in the less cultured Bullant. Anet, with its wide courts, its palatial distribution, and its rather frigid triumphal archway, must have been impressive and stately; of the design for the Tuilieries, on the other hand, I am unable to form a favourable opinion. On either side of a pavilion, not itself, I think, very happy in design, abuts without evident connexion a low building in which a crowded attic of unfortunate proportions rests immediately, nothing intervening, upon an arcade, very handsome and dignified in itself, but calculated to carry a palace and not a highly-decorated garret. It is as if you should place a hat on a pair of legs and offer the result as a man. To De l'Orme is due the introduction of what is called the *ordre francais*—a column of which the fluted drums are divided by ornamental bands. But the days were near when the light of creative genius in art was to burn low. The days of civil strife and butchery in which so many noble lives were quenched in blood, the dark days of the Huguenot persecution, were not auspicious for the growth of art, and with the close of the century we find life and spontaneity at a low ebb—little production, a tendency now to heavy monotony and now to barocque redundancy, and a lack of sense of fitness which admitted of masking with a ponderous Classic façade churches built on the scheme of, if not with the forms of, ogival architecture. Officialism, too, in artistic matters was at hand, and soon that implacable organiser, Colbert, was to regulate the arts, also by Royal decree, and to found an academy which admitted only one saving creed. The frigid pomp, the artificial graces of the structures inspired by the 'Roi Soleil,'—majestic in the many-storied wig which encircled his retreating brow,—how far are they from the radiant daintiness, the joyous freedom of the palaces and pleasances which sprang up in the days and at the beck of that truly sunny Sovereign, Francis I.!"

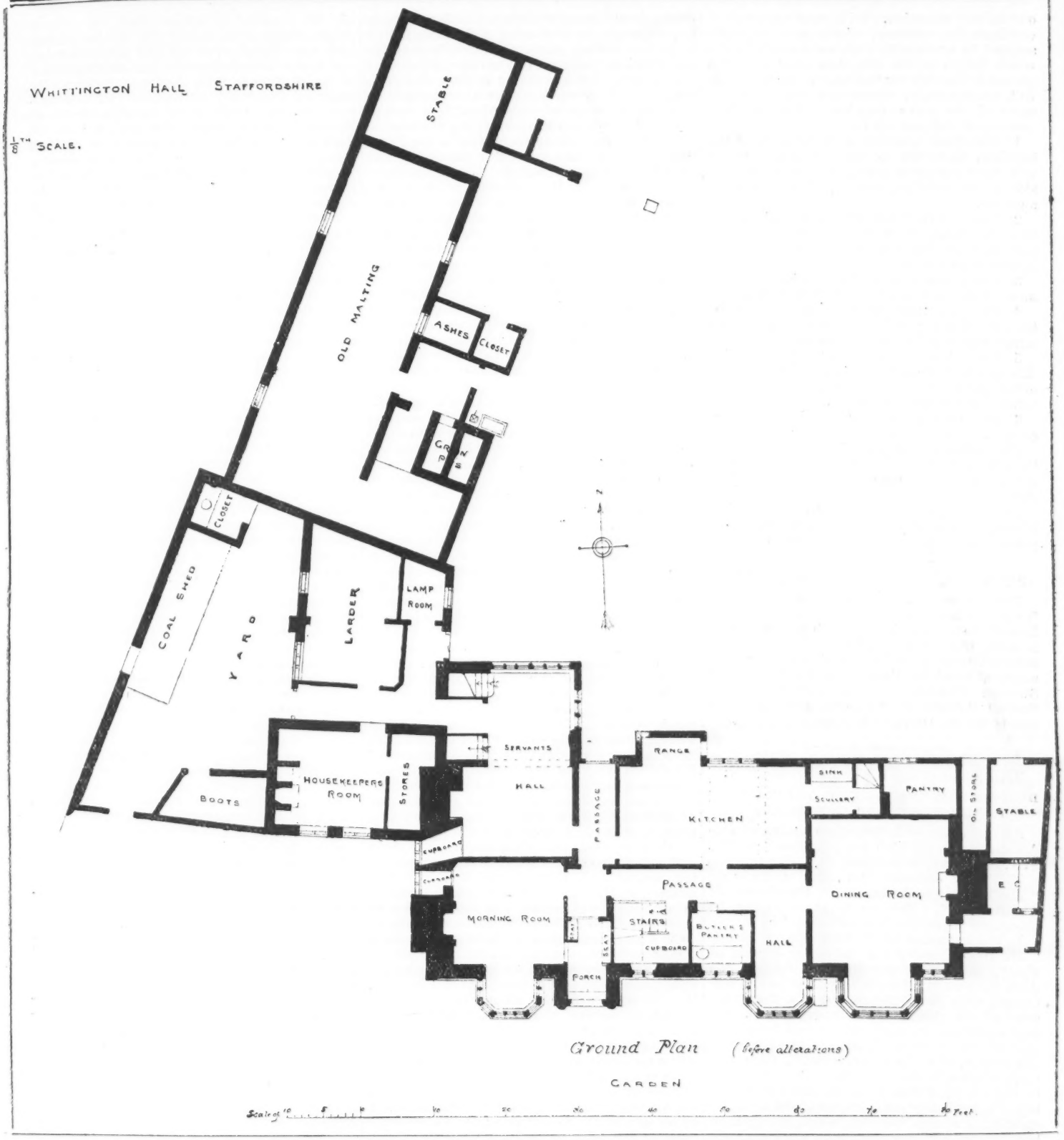
Illustrations.

ANCIENT IONIC CAPITALS.

THE capitals shown here form part of the subject of a paper by Mr. R. W. Schultz, the author of the drawing which will be found on another page. The drawing itself was exhibited in the Royal Academy of this year, and showed with great delicacy and truthfulness of effect the faded colour and the texture of the originals.

WHITTINGTON HALL, STAFFORDSHIRE.

WHITTINGTON HALL, situated some three miles from the City of Lichfield, is one of the old historic houses of Staffordshire. Whittington at the time of Domesday Book was, no doubt, a Bishop's Barony, for in the reign of Henry III., 1255, the Bishop of Chester held the Manor of Longdon, and with it Whittington. Soon after this Hugh Solesby, by a beautiful old deed, assigned to the Chantry of St. Radgemund the Virgin, as a salary for ever, all the rights he had in Whittington. Roger Fitby, Richard Puer, and Richard le Child, or Lichfield, were also lords here. Previous to the



Ground Plan (before alterations)

reign of Henry, the right there appears to have been a division or divisions of the Manor, and more than one important residence occupied by families of distinction. Only one of the houses now remains, and known as Whittington Old Hall. Dating as it does from the Perpendicular period, and retaining many additions of the succeeding Elizabethan age, it is a most interesting structure. It would appear that the early Tudor builders, retaining possibly the old foundations, or, at least, the general arrangement of the preceding age as to the retention of the great hall with screen porch and butteries, &c., erected a house wholly of half-timber work, and with finely planned brick chimneys, remains of this half-timber work remaining still on the north front. The most remarkable architectural feature about this house is that the whole of the south or garden front, with some portion of the entrance front, were entirely remodelled *temp.* Edward VI. and Early Elizabeth, by a process of leaving the old half-timber work and recasing the exterior with brick and stone-work, and with striking bays and mullioned windows. These can all be seen on the plan. No indications of such an operation were apparent until the recent additions were begun, when this and many more interesting facts were disclosed. The connexion of the ancient family of the Dyotts remains still visible in various parts of the mansion. In several of the windows is painted $\frac{H}{R\,D}$ with their arms,—argent on a chevron, three hanks of cotton or true lovers' knots, or between three billets azure; but they have long since ceased to reside there, and much of its old arrangement and details had been altered and removed. This mansion a few years ago came into the possession of S. Lipscomb-Seckham, Esq., J.P., and D.L., and recently High Sheriff of Staffordshire, who, in a most enthusiastic and laborious manner, set about the work of restoration and enlargement. By an examination of the plans as it existed before his purchase of the estate and the plan as it now is, it will be seen that the word restoration is used advisedly, for many of the old apartments had been turned to baser uses, and appropriate features and surroundings hidden out of sight or mind, but now old items of interest and use are again visible and usable, and nearly the whole of the interior has the remains of oak-panel work extended over the rooms generally, and ancient moulded wood and plaster ceilings are likewise repaired and preserved. In the view given, the half-timber work on either side of the great hall chimney-stack, and the lower portion of the tower in the central angle, and the lower part of the kitchen return wing, is ancient work; the remaining portions are new additions, and are intended to be in keeping with the ancient remains, while providing for present-day needs and usages. Mr. Seckham has been assisted in this work, which has been some years in progress, by Mr. M. H. Holding, A.R.I.B.A., of Northampton, and the work has been carried out by the estate workmen, with independent contractors for different portions of the undertaking.

BATTERSEA TOWN HALL.

THE site selected for the new Town Hall and Parochial Offices is situated on the top of Lavender-hill, thus occupying the most commanding position in the neighbourhood, and which presents a frontage to the main road of 162 ft.

The building itself is not placed centrally on the ground, as I propose making a 40-ft. road on the east side for access to the public hall and other parts of the building, as will be seen

on the side elevation. It is now proposed to continue the roadway, which was originally stopped by a retaining wall, northwards for the whole length of the site, thus opening up the ground in the rear for building purposes. This will, consequently, necessitate the abandonment of the porte cochère. The principal features of the plan are:—

1. The good approaches to all parts of the building, especially to the public hall, which will have numerous emergency exits on each side of the building, opening directly into the open air.

2. The corridors are wide and well lighted from the central court, while the principal staircase and the entrance to the public hall are lighted from above.

3. The compactness and convenient arrangement of the various offices for parish purposes.

4. The prominent position assigned to the Council Chamber and the accompanying committee-rooms and members' library.

5. The means of completely disconnecting the public hall and its accessories from the other parts of the building, when let for bazaars and other purposes.

6. The thoroughly well lighting of every corner of the building.

The design is essentially English Renaissance, though perhaps treated somewhat freely, and will be executed in red bricks and Monke's Park stone.

The heating will be principally by open fireplaces, assisted by hot water on the low-pressure system. E. W. Mountford.

PREMISES, EAST-STREET, PLYMOUTH.

These premises, just completed, are erected for a furniture-shop and warehouse. The surface of the walls is finished with cement, which is being treated with colour. The building is supplied with a hydraulic elevator for passengers, fitted by Messrs. Archibald Smith & Stevens. The contractor for the work was Mr. Samuel Roberts, of Plymouth, and the architect is Mr. W. Dunn, of London.

THE ARCHITECTURAL ASSOCIATION:

DISCUSSION ON THE TRAINING OF ARCHITECTS TO THE PURSUIT OF ARCHITECTURE.

At the ordinary fortnightly meeting of this Association on the 11th inst., the President, Mr. F. T. Baggallay, in the chair,

Mr. T. G. Jackson, M.A., read a paper on "The Training of Architects to the Pursuit of Architecture." This we print *in extenso* in preceding pages of this week's *Builder*.

In the discussion which followed,

Mr. H. O. Cresswell, in proposing a vote of thanks, said he thought that Mr. Jackson had done them an inestimable service in calmly discussing their new scheme and in giving them some of the ripe ideas of his experience. He only regretted that they had not had the advantage of Mr. Jackson's advice in the course of last session, when they were trying to formulate their scheme, instead of now. But even now he did not think that it was too late for them to improve it, if they saw a means of doing so, by embodying some of the ideas which Mr. Jackson had thrown out that evening. They had not gone lightly into their new scheme, for they had very fully and earnestly discussed the question before drawing up their new curriculum; but he did not think that any of them put it forward as a perfect scheme, or as one to which nothing could possibly be added, and therefore he did not think they need be afraid of such criticisms as Mr. Jackson had made that evening. Offered in the spirit in which Mr. Jackson had given them, he thought they could not do anything but good. He was sorry that he could not speak with the same enthusiasm with regard to some remarks which they had had at their last meeting. In reference to Mr. Jackson's suggestion that students should not only work out designs on a small scale but should also work out the details, he (the speaker) might remark that that was a point which had already been taken into consideration, and instructions had been given for that to be done. As regarded perspectives, he thought it was a little difficult to see how they were at present to adopt the suggestion made; but he had no doubt it could be done. He had had considerable experience of the drawings of the students of the Architectural Association in connexion with the Prizes Sub-Committee, and he could cordially endorse Mr. Jackson's opinion that it was necessary that pupils should begin as early as possible to study in perspective, because many of the designs sent in for the various prizes showed a lamentable and hopeless ignorance of the very rudiments of perspective,—not to mention artistic draughtsmanship. They showed that the students in many cases had entirely worked out their designs first, and had drawn the perspective afterwards. It had for some time been apparent to the Prizes Sub-Committee that something should be done to endeavour to get students to study perspective earlier than they seemed to do at the present time, and to eradicate the idea which seemed to possess some students that a design was finished when they had made their plans and elevations, and that a perspective was merely a picture to be made afterwards. The suggestion as to workshops seemed to be a most valuable one. It was a suggestion they had had made before; but it was not quite clear from the proposer who was to run the workshop, or how it was to be worked. It seemed to him that if arrangements could be made by which students could visit a series of workshops of trades associated with their craft it would be a very great advantage to them. But the difficulty was how the Association were to arrange for it, seeing that all their work was done in the evening, which was the only time at the disposal of their students. He did not propose to go into the question of the Examination, which, he thought, was one which the Association would hardly discuss. The Association educational scheme had, of course, been founded on the basis of the existing state of affairs, and must be regarded as accessory to, and not in place of, the ordinary pupilage system. It was useless for them to consider whether the Examination should be swept away, or whether it should not. The Examination was a fact, and they had discovered that if the Association did not try to do something to educate the student, he would go somewhere else. Since the institution of the Examination the attendance at their Classes had been falling off, although a large number of their members went in for the Examination. The explanation of that was that not finding what they wanted at the Association they went to the "crammers." He did not wish to say a word against those gentlemen, but he would point out, in conclusion, that one of the main objects of the new educational scheme was to enable all young architects to begin to study seriously as soon as they entered the office where they were articled, and to enable them to continue studying seriously all through the time of their articles, so that they might obtain instruction in all that it was necessary to enable them to practise, and so that they would not require to go to a crammer to pass the Institute Examination or any other examination in architecture.

Mr. F. R. Farrow said he had great pleasure in seconding the vote of thanks to Mr. Jackson. He did so because he wished to express his cordial agreement with a great deal that he had said about examinations. As might be known to some of them he had had considerable experience as a "crammer," and he could quite agree with what Mr. Jackson had said as to the evils of preparation for the examinations,—evils which he (the speaker) had endeavoured, as far as possible, to mitigate; for when people came to him wishing to learn as little as possible in order to pass, he had always endeavoured to give them a great deal more work than was necessary. On some other points of Mr. Jackson's paper he was not in such cordial agreement. He did not quite agree with Mr. Jackson in the statement that he made about the study of history. If he understood Mr. Jackson aright, he said that the study of history would not do any good to a man as an architect. All study, to fit a man for an artistic profession, must be directed to one of the two objects; first of all, to furnish him with material from which to make his designs, and secondly to furnish him with technical ability to express the design that he was able to conceive. The material which the architect required was a very wide acquaintance with the artistic work that had been done before him. The more a man knew of the artistic work of the past, the more original his own design became. When a man was making a design, two mental operations were always going on in his mind, one conscious, the other sub-conscious. He believed it was to the latter that a man owed a great deal of the artistic invention with which he was enabled to invest his design. A man acquired from the study of the work of the past masters of his craft a great deal of knowledge which was stored up in his mind, and was drawn upon by him unconsciously; and it was from that source that the inspiration of design came to them they knew not how. He regarded the study of the history of architecture as one of the most valuable means of storing a man's mind with material to be worked up on future occasions,—he did not mean by merely copying it, but by impressing it with his own individuality. He might instance what he meant by referring to Mr. Jackson's own work. When one looked at Mr. Jackson's buildings one saw at once that while they could not point to one or the other and say that such and such a building showed us that Mr. Jackson had seen such and such other buildings, they were nevertheless impressed with the idea that Mr. Jackson had seen a great deal of good work, and had unconsciously copied the spirit of that work, so that probably the old men, if they had had to work out the same problem as Mr. Jackson had had to solve, would have given to their work nearly the same result. Of course, he quite agreed with Mr. Jackson that the learning of dates was not history; but the history of architecture was a record of the way in which the men of the past dealt with problems that they had had before them, and when we saw how the Greeks, Romans, Gothic men, and Renaissance men grappled with these problems, the very last thing we should do was to copy what they had done. The copying of past work could only proceed from imperfect knowledge of it. He quite agreed with Mr. Jackson's commendation of Viollet-le-Duc's article on "Construction." With reference to Mr. Jackson's remark about the value of Greek work for purposes of study, he could not see how they could properly study Roman work unless they had some knowledge of Greek work. They had frequently heard in that room from the lips of one who was a master—the late William Burges,—that from Greek art they could learn principles. Burges was a man whose work showed as little copying of Greek art as that of any man of our time; but he had, nevertheless, told them again and again that the study of Greek art was an absolute necessity for a man who would be a good architect in the nineteenth century. In conclusion, he said that Mr. Jackson would, no doubt, be glad to learn that the students of the Association were not purposing, as a body, to use the Association scheme merely as a means of enabling them to pass the examination. Many of the members who had joined the classes had joined them with the view of learning architecture, and not for the purpose of passing the Institute examination.

Mr. Reginald T. Blomfield said that Mr. Jackson had stated the case of "the memorialists" so exhaustively that there was little more to add. He was very glad to hear from Mr. Farrow that the Association did not look upon the Institute Examination as the goal of their ambition. He fully agreed with all that Mr. Jackson had said, but there were one or two points bearing on the question as to which he should like to say a few words. In the first place, he felt that he owed some explanation to the President of the Association. His (the speaker's) criticism of Mr. Baggallay's presidential address, which appeared in the current number of *A. A. Notes*, was directed at what appeared to be the substantial gist of the President's recent address and the speeches which followed it, taken together; for, though the President himself pointed out that the pleasure in his work was the only reward an architect could certainly look for, that view did not appear to be shared by the other gentlemen who addressed the meeting, and it would be the merest affectation to maintain that it was held by any but the very smallest minority of living architects. Again, in regard to the question of the art of architecture, he knew that Mr. Baggallay himself as sincerely desired its advancement as any man among the memorialists, but they differed as to the road. In the opinion of many of them, the Institute Examination cut at the root of the art of architecture, and he did not think it could be denied that the Association scheme had been framed entirely on the lines of that Examination. They, therefore, thought that both the Institute and the Association were simply rivetting the chains of professionalism more firmly than ever round the neck of the unfortunate student, and that was what he wished to point out in his letter. Mr. Brydon and others had asked, "Why don't you come over

and help us?" But it was impossible for "the memorialists" and those who thought with them to join hands with the Institute or the Association so long as those bodies were pledged to a policy with which they entirely disagreed. Personal animosity was the very last motive which actuated them. He and those who thought with him respected the motives which animated Mr. Baggallay, Mr. Stokes, Mr. Brydon, and others. There need be no ill-will when fighting for a principle. In regard to the question of "artist" or "professional man," he agreed with Mr. Baggallay that the name was nothing; it was the bundle of facts which the name covered that must be looked to. But when they got to those facts they found that there were two perfectly distinct conceptions of an architect now about. The first, and what he must with all deference call the Institute view, considered an architect as a person of three parts,—constructor, man of business, artist; those parts were interchangeable, so that, given any two, a man would have a better claim to be considered an architect than a man with only one. Thus, if a man were something of a scientific constructor (or "scientist," to use that odious word) and a man of business, he would be more of an architect than a simple designer. The other conception,—and that was the view taken by the memorialists,—was that construction and art could not be separated, as Mr. Jackson had most clearly pointed out; and that an architect was wholly an artist, using the word "artist," in a very large and comprehensive sense, for a thinker and creator. By much study and thought, and observation of materials, he had to attain such an insight into their nature as would enable him to get out of those materials the highest qualities of which they were capable,—and that was not simply a matter of elevations, but involved thoughtful, reasonable, and practical planning; it involved an organic process of thought by which the architectural conception grew up into one perfect whole. So far from being unpractical, the architect, as they (the memorialists) conceived him, was one of the most practical of men, because he resolutely set his face against all that was senseless in plan or construction. Now, given that conception of an architect, which, no doubt, many of his hearers would accept, what was the best means of training him? In the first place they (the memorialists) would narrow the field by discarding surveying in all its branches, and all those multifarious works which had no more to do with architecture than the man in the moon, such as arbitrations, negotiations for sites and for floating building schemes, and the business of the commission agent generally. There was not a word to be said against such work, but it did not happen to be architecture. Then, for the training of an architect, they would look chiefly to the builder's yard, the workshop, and the studio, supplemented by such office-work as was sufficient to teach him how to make his intentions clear to workmen, and they would give him a systematic training in practical design, such as was already partly provided at the Academy, only one would hope to see the Academy schools very largely extended and developed. Associations with painters and sculptors and craftsmen of all kinds, and with builders of ascertained integrity, might be formed to carry out such a system of education. If such a scheme as that could be realised,—and he saw no invincible obstacle in its way,—professionalism, which was only a more genteel form of commercialism, would be starved to death, or would at any rate leave alone those who were outside the Institute, and they might then at length have a compact body of skilled and enthusiastic men, who would be able to carry out the Association's most excellent motto, "Design with beauty, build in truth."

Mr. Sydney Vacher expressed his pleasure at seeing so full a meeting of members for it showed that the Association appreciated a man like Mr. Jackson. The Association had always shown itself to have an open mind ready to accept suggestions from whatever quarter they came. At its first start it consisted of senior and junior men, and those who were able and willing, helping to teach the others, and so teaching themselves. What they wished to do was to progress at the present time, and such a paper as Mr. Jackson's was a great help. There was one thing Mr. Jackson omitted to tell them to do, and that was that some of the junior members who showed no aptitude whatever for their work should be advised not to continue their studies, but try something else. A great deal had been said about working at the bench and visiting workshops; he hoped that those who had the arrangement of that part of the scheme would not attempt swarming down on the British workman like a flock of locusts; they would become a dreadful nuisance. More good could be done if masters could be induced to make arrangements for their architectural pupils to spend one day a week in workshops helping the foreman to set out and superintend its execution there; that would sometimes save time and prevent mistakes. There was a class of men who would probably make but fair clerks; he suggested that they might with much advantage to every one turn their attention to becoming craftsmen. With regard to the Institute examination, his experience was that long ago the constructional test was ridiculously theoretical (scarcely a practical question asked), and the artistic test was poor in the extreme. He believed since then that the examiners had beaten their many records in that line. The teaching of the Association was essentially practical, commencing at the preliminaries, and it led up to that at the Royal Academy Schools; but the architect never really began to learn the difficulties of his profession and the subtleties of his art till he entered into practice himself; then he found out how little he knew. He asked Mr. Jackson if he approved of the idea of a young architect being able to go to an older, experienced man, such as himself, and for payment of a moderate fee, say, ten to fifteen guineas for a 3,000*l.* job, obtaining one or two careful criticisms on a design he was about to carry out. If that was possible, and became the practice, far less of the awful productions and muddles that had been perpetrated by young men on their first works would be avoided, and many a client would be saved from the effects of his too great confidence in some young *protégé*.

Professor Kerr said he came there that evening of course expecting to hear from their friend Mr, Jackson some allusion to the great question which was agitating the profession and which was denominated, he knew not why, "Is Architecture an art or a profession?" He was glad to say that from Mr. Jackson, Mr. Reginald Blomfield, and Mr. Vacher they had heard statements embodying the views of the party to whom they belonged. He (the speaker) had never made any pretensions to be a great artist, and, generally speaking, he should advise the young men not to strive too earnestly after that position. What the public of this country wanted was a certain amount of grace conferred upon building, the building itself being previously thoroughly well designed. Of course, when they met with a genius, it was their duty to give his abilities full play. It was their duty to recognise and encourage him to the utmost; but, generally speaking, the average man,—and, of course, that meeting was composed of average men, with very few exceptions,—would learn, when he got into the sere and yellow leaf, that wisdom lay in moderation even in artistic aspiration. Occupying the position of a somewhat impartial man between the two parties, he wished to say that there was an entire misunderstanding on the part of Mr. Jackson and his friends of the views which were entertained by the Institute. There was no disposition whatever in the Institute to discourage art; on the contrary, there was every disposition to encourage it; and if Mr. Blomfield, Mr. Jackson, Mr. Norman Shaw, and others, would join the Institute, they would be given as much scope as they could wish for with respect to art and enthusiasm. That, he ventured to say, was the feeling of every member within the walls of the Institute. Now, as to the existing examination, he (the speaker) had had nothing to do with it, for it was the other examination, which Mr. Vacher had passed with so much distinction, that he initiated; that examination, he contended, was a far superior examination to the one which was in force at present,—Mr. Cates's examination. Now, Mr. Cates was a perfect man of business; he was a perfect representation of the union of those three elements which had so offended Mr. Jackson and Mr. Blomfield, viz, a combination of art, science, and business. Now, he asked his hearers to bear in mind that they were the servants of the British public (cries of "No"). Very well, then, he would speak to those who were. He did not mean to disparage art or artistic aspiration in any way; indeed, he had advocated the interests of art all his life. The public opinion of the cultured classes stood towards them thus: they (the public) must have their buildings, as Mr. Jackson had said, thoroughly well planned; that was to say, the internal organisation, the vitals of the concern, must be right to begin with. In the second place, they must have the body corporate of the building properly built. In the third place they would, in moderation, take as much real and substantial and practical grace as the architect could put upon the work. If the architect was able to put a moderate quantity of grace upon his building, what an immense gulf separated him from the man who could not do so! Why did they despise the builder or the man who built without an architect? Simply because of the great gulf that existed between "can" and "can't." A little architecture would carry them a long way; but they would do well to let it be good. They did not want a large quantity of bad art, but a small quantity of good art. Now, what did the Institute do? As he understood Mr. Cates, it virtually said, Look around upon all other kindred societies and what did they see? They found a bar placed to admission in the nature of an examination of some sort; and they said it was desirable that that bar should be placed across the entrance to their society. And who could deny that? It could not be denied. It was of no use to say that when a young man was called upon to pass that examination he had to sacrifice his artistic intelligence. He (the speaker), for one, would examine him in art. Mr. Jackson and Mr. Blomfield might, perhaps, say that a man could not be examined in art; but granted that that was so, because they could not examine a man in art were they not to examine him in construction? He was rather inclined to think that the examination was at present in danger of being carried too far, but he did not think they ought to disparage the sensible endeavours of their colleagues of the Institute when they were seeking to make a respectable appearance before an intelligent public, by establishing a system of examinations which was instituted by everybody else. He could never forget that in his young days the Institute of British Architects was a learned society,—using the term in a technical sense. In its way it was on a level with the Royal Society, the Society of Antiquaries, and with other distinguished great societies of the country. Whether it was on that level now he would not express any opinion; but if the Fellows of the Institute were to be admitted by examination, as was proposed, he was very much afraid that it would no longer be on that level, or anything like it. Who would ever propose to admit Fellows of the Royal Society by examination? It would not be thought of. There was another point which was worthy of most serious consideration. It was all very well to examine a young man who was a candidate for admission to the rank of Associate of the Institute, and if he were rejected, to tell him to come up next year, or to relegate him to his studies. That was all very well, and did him no harm; but who was to correct the evil which would be caused to a man who had been in business for ten years who might apply for the Fellowship of the Institute and was rejected on examination? That was an idea which was not to be contemplated with patience; people would not submit to it. He quite agreed that a proper test should be applied, but that test might be applied without involving the indignity of an academical examination. He wished to express his very great satisfaction with the doctrines promulgated by Mr. Jackson with regard to education. Nothing, in his opinion, could be more sound, practical, and sensible, or more deserving of the attention of students. A dissertation like Mr. Jackson's, read before an assembly like that, could not fail to do a great deal of good, and he was quite sure that Mr. Jackson would excuse him when he said that in all he had said on that subject he represented the Institute of Architects to the letter. With regard to the new educational scheme which had been started so courageously by the Association, it was not for him to express any opinion. He quite agreed with Mr. Jackson, that the initiation of it,—the way in which it was started,—was a most vital consideration. He hoped that the young men of the profession would give the Association a year or two to come to an understanding as to what could be done and what could not be done. He was still of opinion

that they could not take too serious a view of the responsibilities which were involved in the steps which they had taken. The will was unquestionably present; the good intention could not be denied; the achievement was a thing which must be judged of by experiment. He wished it well. Looking at the whole question, he thought that the Association was to be congratulated upon its boldness, upon its intelligence, and upon the earnestness of those who were governing it.

Mr. E. S. Prior said he did not think he should have spoken but for what Professor Kerr had said. Generally, he should say that if architecture was what Professor Kerr represented it to be, the advice they had better give to everybody would be to leave it alone altogether, and not touch it at all. If it were to be contended that architects were the servants of the public, although the public considered them to be degraded impostors, he would not accept the position of architect and be a party to the continuation of a degrading imposture. By their position, architects were more instructed in architecture than the public, and therefore they should serve the public by leading them to a better appreciation of architecture, and not by pandering to their present views of what architecture and architects were. He did not think there was anybody who had seriously undertaken to review the present state of architecture who had not come to the conclusion that it was in a bad state. He need scarcely refer to a well-known statement of the most eminent architect of modern times, the late Sir Gilbert Scott, who, in an address at the Institute, referred to the present state of architecture as "a national disgrace." If Sir Gilbert Scott could say that, other people might be allowed to say it. Professor Kerr had repeated what had often been said before, that the Institute would like to have the "memorialists" within its fold, and would be ready to welcome them, and to make concessions so as to fall in with their views. That the Institute would like to see them with it was no doubt the case, and perhaps some of them would be glad to be included in its ranks if it were an Institute of architecture, and not of architecture and other things. But though they were decidedly of opinion that the system of examination would be disastrous to the interests of architecture, the Institute had refused to discuss the matter with them. Professor Kerr's speech had chiefly been directed to what was not the subject of the evening, examination. Education for an architect should be such an education as would make him an architect, and render him capable of producing architecture, whether he were a servant of the public or not. When he (the speaker) entered the profession he had no notion that he was going to become a professional artist, an artist professional, a servant of the public, or anything of that sort, and he started, as most pupils did, by being under a master, who told him that it would be of no use for him to try to become an architect unless he were determined to become a thoroughly good architect. A humdrum doctor, he said, might get on and make a living, and bring up his children; but if a man could only be a humdrum architect he had better turn to something else. He did not understand the full significance of his master's words at the time, but he understood it afterwards. He learnt that architecture was a serious pursuit, one into which a man should put his whole heart and soul, and one for which he should live and make sacrifices. Of course he learnt to draw, but he also learnt that drawing was not architecture, nor had anything to do with it. He was also anxious to learn something about old buildings, but in that desire he received little encouragement from his master, although he gave him Viollet-le-Duc's book to read. He also felt a very strong desire to know something of construction, for he felt that behind the drawings upon which he was engaged was the mystery of construction. His master rather pooh-poohed the idea, and said that it would come in time. One day, however, his master suddenly told him that he was to go down and stay for two or three years on a building as a clerk of works. He said he did not know what a clerk of works' duties were; but he was told to go and find out. He went, and then he found that the idea of wonderful construction was all an imposture: there was no science of construction, but there was an experience of construction to be gained by the man who worked with his own hands, and that the real artist was the man who worked with his hands, and not the man who made the drawing. But he also perceived that the present conditions were very much against that sort of thing. He could not follow the definition which had been given of an architect as a sort of three-legged animal, having his fore-leg (the artistic one) in front, with the constructive one behind, while taking all his leaps from his strong business leg. Architecture was not, and could not be, carried on as a commercial or professional pursuit, for it was an art, and the educational scheme of the Association should be directed to help men to become architects in reality, and not shams.

Mr. E. Prioleau Warren said it was very difficult to criticise so genial a speech as that made by Professor Kerr, and though he disagreed with him in nearly everything he said, he was in cordial agreement with him on one point. He said that if the architect wished to make a respectable appearance before the British public he would avail himself of the Institute test; but Heaven forbid that any architect should wish to present a good appearance before the British public! He did not think that any architect worthy of the name was at all inclined to subscribe himself as being in any sense a servant of the British public. He was glad to find that the Association meant to take its stand on its own merits as an educational factor, and not as a preparatory school for admittance to any other body,—that it was not going to allow itself to be recognised as a mere stepping-stone to or a cramming school for the Institute Examination, but that it would continue to be an association of men striving to educate themselves in the true knowledge of architecture. An architect not only considered himself to be an artist, but he *knew* that he was one. The question was not merely a question of names, but was a question of vital facts and principles.

Mr. H. H. Statham said there was just this difference between the works of painters and sculptors and those of architects, viz., that people lived in houses and did not live in statues and paintings. It was an important thing that a man who had to build a house should not only be an artist in point of design, but that he should have a knowledge of construction and sanitation, which were things upon which he could be examined. He thought that there had been a mistake all through as to the real meaning and intention of the Institute examination. He believed that it was establised in response to a very natural public demand. A good many years ago there used to be strong complaints in the papers that architects were not technically instructed. A great deal of that was only nonsense, but there was some foundation for it. There was now, he ventured to say, an amount and variety of technical knowledge among the younger generation of architects which was almost unknown fifteen or twenty years ago, and he was inclined to think that the Institute movement in the direction of holding examinations had had a very great deal to do with that improvement in technical knowledge amongst the rising generation of architects. The Institute's list of subjects had served to point out to candidates what they ought to study, and a distinct impulse had been given to the study of such subjects. He could not help thinking that, on the whole, and in regard especially to the technical side of architecture, the Institute's action had had a very beneficial influence. Therefore he thought the view taken by the other side in this controversy was somewhat one-sided and unfair, inasmuch as it had given no credit to the Institute for the real influence which it had had in stimulating the technical side of architectural education.

The President (Mr. F. T. Baggallay), in putting the vote of thanks to the meeting, said it seemed to him that now that they had heard the views of "the memorialists," there did not appear to exist such a wide divergence between them and the Association. The Association had always held very much the views which Mr. Jackson had enunciated. The Association had felt it necessary, under the circumstances of the establishment of the Institute Examination,—against which they had no strong feeling,—to make provision in its educational scheme for men who might wish to study for the Examination. With that view they had included land surveying and quantity surveying; on the other hand, they had not included some of the things which, from their nature, it would have been difficult to include, especially workshop practice. A great deal had been said about workshop practice. Mr. Vacher had suggested that architects should send their pupils to workshops and on buildings; but how the Association could deal with craftsmanship and the training of men as craftsmen he did not quite see. He thought that some of "the memorialists" were entirely mistaken in their view that the Association scheme was intended as a preparatory course for the Institute examination. There was a very large number of students who had made up their minds to go in for those examinations. The Association saw no objection to their doing so, but thought it desirable to make provision for them in the Classes of the Association. He had great pleasure in putting the vote of thanks to Mr. Jackson for his paper.

The vote of thanks having been carried with much applause,

Mr. Jackson, in replying to some of the points raised in the discussion, said he would not detain the meeting at that late hour by replying to all that had been said in the course of the discussion. But he was delighted to find that in reality almost everybody who had spoken agreed with him. Professor Kerr had stated the difference between them in so amiable and friendly a spirit that they hardly appeared to differ at all on many points. However, on the examination question and the policy of the Institute they did find matter for difference, and he must confess that nothing Professor Kerr had said had tended to remove the objections which he entertained to the course which the Institute had adopted. Professor Kerr had said that architects were servants of the public; but they ought to understand clearly what was meant by that expression. As Mr. Warren had said, they were all, in a sense, the servants of the public; but he (the speaker) did not think that even to serve the public they should adopt Professor Kerr's view that grace could be added to a thing previously well planned. The architectural design should begin at the very beginning of a building; there was no subsequent point at which it could be said that the architecture came in. After all, if they wanted to educate themselves, they wanted to educate the public a great deal more. Nothing was more surprising than the ignorance of the public of the true principles by which to judge architecture. Any man would be ashamed to say that he could not judge a picture,—although it was not every man who had that capacity,—but no man was ashamed to say that he could not judge architecture. People looked upon it as something abstruse,—something not to be understood. But architects must teach them by their works the difference between good and bad architecture. It was the business of architects to put before the public good work. The more good architecture there was put upon the world the higher would the standard of public taste be raised. They would never be able to teach the public by illustrations, drawings, or books, or by exhibitions of architectural works on paper. People never looked at them; they never went into the Architectural Room of the Academy, and if they did perhaps they would not learn much. The more good buildings there were in the world, the more people would learn to appreciate them. Professor Kerr had asked why "the memorialists" did not join the Institute, and why they disbelieved in examinations. Well, it might seem a very disrespectful thing to say, but he never could understand why there should be an Institute of Architects. He could not see any good in architects shutting themselves up in a close body,—not to take the extreme view of those who urged that architects should become a registered body, like lawyers and doctors. All arguments in favour of such projects were based on a false analogy, because the conditions were not the same. The closer they shut the doors the more and more would it become a profession instead of its being an art that might be freely practised. He could understand an Institute of Architecture, but not an Institute of Architects. Were the majority of the men within the walls of the Institute men who practised architecture, and nothing else? He thought not, for in the London Directory it would be found that about half of them called themselves surveyors as well. The memorialists held that architecture and surveying were two distinct callings which

could never be successfully practised by the same man, and that no man could be a tolerable architect who did not give his whole time to architecture.

At the meeting of the Discussion Section (late the Advanced Class of Construction and Practice) held on the 16th inst., Mr. F. E. Williams, A.R.I.B.A., read a paper on "Oak; its Varieties and Uses." The special Visitor for the evening was Mr. J. E. Knox, and Mr. Thos. Blashill kindly contributed some notes on the subject. In the discussion which followed, Messrs. Fleming, Clarke, White, Clark, and the chairman (Mr. Goldsmith) took part. The special Visitor summed up, and the meeting closed with the usual votes of thanks.

THE NEW PUBLIC HEALTH (LONDON) ACT:

THE SANITARY INSPECTORS' ASSOCIATION.

AT the monthly meeting of this Association, held at Carpenters' Hall, London-wall, on the 5th inst., Mr. E. Lewis Thomas, M.A. (of the Middle Temple), delivered an address upon the New Public Health (London) Act, which will come into force on the first day of the new year. There was a large attendance of members, and Mr. Hugh Alexander, Chairman of the Council of the Association, presided.

London had waited, said the lecturer, for more than fifteen years after the rest of the Kingdom for improved sanitary regulations, and although, since 1875, when an amended Public Health Act became law in the provinces, many attempts had been made to amend and codify the laws regulating sanitary matters in the metropolis, it was only on August 5 of the present year that those efforts had reached a successful issue by the passing of the Public Health (London) Act, 1891. By the new Act many changes had been made which might be expected to prove beneficial if it were administered in a proper spirit by the Vestries and other authorities charged with carrying it out. It imposed new duties upon sanitary inspectors, and gave new powers to sanitary authorities; but, unfortunately, the administration had been kept under the Home Office, instead of being put under the Local Government Board, which had in its jurisdiction medical officers and medical inspectors, who might advantageously have been charged with the supervision of the work, whereas the Home Office had no officers of either class. The new law was not merely a codifying measure, but an amending and a repealing Act. Multifarious old Acts had all been repealed, some of their provisions being re-enacted, and others being amended and made to apply to the entire area of greater London. Among the principal amendments were the following:—The duty of cleansing the footpaths at least once a day, formerly laid upon, but too often not fulfilled by, the owners and occupiers, had been removed to the shoulders of the Vestries, the sanitary authority of each district being henceforth responsible for the cleanliness of the footways equally with the roadways. The removal of house-refuse at stated intervals was now made compulsory; houses in which there had been infectious disease were to be disinfected by and at the cost of the sanitary authorities, compensation being awarded to the owner in case of unnecessary damage being done. The head teacher in any school would be required to notify to the Medical Officer of Health the existence of any case of infection amongst his scholars, and the carrying of any infected person in a public conveyance would no longer be permissible, although, perhaps, by an oversight, after the death of such a person the body might still be carried in a public conveyance, if done with the owner's consent. The evil of underground rooms had been alleviated, if not entirely suppressed, it being provided that in all new houses a headway of not less than 3 ft. above the street level must be provided for in the lowest rooms. The sanitary authorities are required both to make and to enforce all necessary by-laws, and, in short, so far as the thing could be accomplished by Act of Parliament, every London Vestry was, willy-nilly, to be made virtuous. The London County Council had the most important duties to perform with regard to the working of the Act. It must provide in each district proper court-rooms for the holding of coroners' inquests. The County Council had extensive powers under the new Act, and it ought to form such a centre of sanitary organisation as should render it easy to acqutre information respecting the outbreak of infectious disease in any district, and to disseminate throughout them all information with regard to the best methods of checking them. In concluding his lecture, Mr. Thomas said the draughtsman of the Act of 1891 had done his work well, and there was much reason to be thankful for the passing of the Act. It would be a boon and a blessing to the metropolis if carried out by the Vestries and the District Boards in the spirit in which it had been conceived.

A discussion followed, on the motion for a vote of thanks to the lecturer, proposed by Mr. Edwards and supported by Messrs. Watson, Middleweek, Tidman, Woonton, Fairchild, Thomas (of Bermondsey), Jones, Grigg, Dee, Goodwyn, and Chamberlain, the chairman winding up the discussion. Among the principal points raised were the following:—That while underground rooms in working quarters were provided against, no provision was made for their abolition in gigantic West-end clubs, where two or three stories were often found below the ground-level; that no direct authority to lodge complaints had yet been given to the sanitary inspector, and he could only still do that on the authority of his Board; that the building of houses with any underground room had not been absolutely prohibited; that the sanitary inspectors had not been placed under the Local Government Board from the passing of the Act instead of in 1895; and that uniformity of working under by-laws had not been prescribed, instead of each Vestry being still left to follow its own system.—Mr. Tidman thought the authority given to the County Council under the Act would eventually secure uniformity in the by-laws.—Mr. Goodwyn (Richmond) pointed out that the private interests of Vestry Clerks and Medical Officers directly clashed, in numerous cases, with the efforts of sanitarians to get rid of abuses.—Mr. Thomas (Bermondsey) stated, amid expressions of dissent from some members, that henceforth the sanitary inspector who would fearlessly perform his duty would see the public stand by him, and the Vestry would no longer be allowed to tyrannise over him. The ancient conditions no longer existed.—Mr. Alexander, in supporting the vote of thanks, and before putting the motion to the meeting, announced the appearance immediately of a volume by Mr. E. Lewis Thomas, dealing fully with the new Public Health Act. The vote having been carried with the warmest acclamations,

Mr. Lewis Thomas replied upon the various points raised in the discussion. He said that in drawing up his paper he had elected to give them an exposition of the Act and an appreciation of the new legal situation created by it, rather than a sensational paper written for the Press with a view to its "catching on." He was gratified to find from the cordial reception they had given to his observations that he had taken the right course. He had, of course, not been able to deal with all the 140 clauses of the Act and all the amendments proposed, which amounted to twice the number. In answer to a question as to what was meant by "a new house" in Clause 48, he said he was of opinion that a house would be considered a new house which was not roofed in (that is, had not become a house) before the Act came into force. With regard to the non-liability of a contractor or his workmen for bad work, an anomaly formerly existing, he pointed out that under the new Act the Vestry might, wherever it found bad work, bring the offending person before the court. The complaint of Mr. Goodwyn had his entire approval. A Medical Officer of Health should not have a private practice, and no Vestry should employ a clerk whose circumstances were such that his interests and his duties were liable to clash. In answer to another member, Mr. Thomas said that under the new Act the sanitary inspector would have to report to the sanitary authority. His master was the Vestry and not the Medical Officer. With regard to Lord Fortescue's amendment, cut out from the Bill on the motion of Mr. Kelly, in the House of Commons, he had the best reason for saying that the Local Government Board was in complete sympathy with Lord Fortescue. The Department had expressed no opinion favourable to the course adopted in the House of Commons, but the fact was that the clause had to be thrown over as a sacrifice to the grouse, and as the only means of saving the rest of the Bill. Mr. Kelly probably knew on what strong ground he stood when he gave notice that he would continue his opposition to the Bill until the clause were removed. Sanitary inspectors could claim to be re-appointed under the new Act, whereupon half the salary might be claimed from the department, and they would then be under the Local Government Board, in a similar position to officers under the Poor Law Board. As officers of the Local Government Board nobody else could interfere with them. With regard to other rights, he expressed no opinion.

Mr. Alexander having announced that the President of the Association (Dr. B. W. Richardson) would deliver an address in the large hall on January 2 next, when ladies would be invited, the meeting closed.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of this Council was held on Tuesday afternoon last, the Chairman, Sir John Lubbock, presiding.

Tenders.—Tenders were received for the electric lighting of the central offices of the Council, and for the erection of a Weights and Measures office in Rosebery-avenue, Clerkenwell. These lists will be found on another page.

Proposed Recreation Ground at Fulham.—The Finance Committee reported as follows:—

"We have considered the application of the Vestry of Fulham for a loan of 7,357*l.* 5s. to defray the Vestry's share of the cost of purchasing and laying-out as a recreation-ground a piece of land at the corner of the Fulham Palace-road and Crown-road. The land in question contains an area of about 8 acres, 2 roods, 29 perches, 23 yards, with frontages of 835 ft. to Fulham Palace-road and 680 ft. next Crown-road. The price, 5,428*l.* 15s. (1,250*l.* per acre) paid for it is certified by the Valuer to be reasonable, and has been approved by the Council, who have agreed to defray half the cost. Certain works of fencing, levelling, drainage, paving, and formation of paths are to be carried out at a cost of 1,501*l.*, and plane-trees and shrubs planted at a cost of 427*l.* 10s., making a total outlay of 7,357*l.* 5s. We see no objection to this advance, and recommend—

'That, subject to the Council hereafter giving its written consent under seal to the borrowing, and subject to all necessary consents and evidence being furnished to the satisfaction of the Solicitor of the Council, the application of the Vestry of Fulham for a loan of 7,357*l.* 5s. towards defraying the cost of acquiring, fencing, laying-out, and planting the piece of land at the corner of Fulham Palace-road and Crown-road, be granted to the extent of 7,300*l.*, on condition that the loan is taken up at once, interest being charged thereon at the rate of 3*l.* 10s. per cent. per annum, calculated quarterly, and with the principal being repaid by such equal half-yearly instalments of principal and interest combined as will repay the amount borrowed as to 5,400*l.* within a period of forty-nine years, as to 1,500*l.* within thirty years, and as to 400*l.* within ten years, from the date of the advance; that it be referred to the Solicitor to take the necessary measures for completing the loan, and that the amount be advanced out of the Consolidated Loans Fund.'"

The recommendation was agreed to.

Resignation of the Chairman and Vice-Chairman of the Finance Committee.—The Finance Committee also brought up several recommendations to loans to other Vestries, including one of 12,000*l.* to the Hackney District Board of Works, for paving. The Committee recommended that interest should be charged thereon at the rate of 3*l.* 10s. per cent. per annum, "the principal being repaid by equal annual instalments on each October 1 within a period of ten years."

Mr. Charles Harrison moved as an amendment—

"That the loan be repaid by equal half-yearly instalments of principal and interest combined, on the annuity principle."

A long debate took place, the principle advocated by Mr. Harrison being opposed by Lord Lingen, the Chairman, and Mr. Cohen, the Vice-Chairman, of the Finance Committee. On a division, the amendment was carried, and an identical amendment was carried on a similar recommendation of the Committee. The recommendations, as amended, having been agreed to, Lord Lingen resigned his position as Chairman of the Committee, explaining that he could not remain at his post while he entertained views upon the conduct of the Council's finance that were not in accord with the views of the majority. Mr. Cohen also resigned his position as Vice-Chairman of the Committee.

The Deputy Chairmanship. — Mr. Benn moved: "That the Council do proceed on

Tuesday, December 22, to the appointment of a Deputy Chairman, in the place of the late Mr. Haggis." Dr. Grigsby moved as an amendment, "That in view of the near dissolution of the Council it is inexpedient to appoint for the present a Deputy Chairman."—This amendment was carried on a division by fifty-one votes against forty-three.

The Blackwall Tunnel.—The Bridges Committee reported as follows:—

"Your Committee report that the Chief Engineer has called their attention to the necessity of the resident engineers for the works of the Blackwall Tunnel being men who have had experience in tunnelling in compressed air under water. It is contemplated that the work will go on continuously night and day, and that two resident engineers will be necessary in order that the interest of the Council may be properly protected. After giving the matter their careful consideration, in consultation with Mr. Binnie, your Committee are of opinion that the salary offered should be 600*l.* per annum, the engagements to terminate on the completion of the work. They recommend—

'That, subject to an estimate being submitted to the Council by the Finance Committee as required by the statute, two resident engineers be appointed, at a salary of 600*l* a year each, to supervise the works in connexion with the construction of the Blackwall Tunnel, and that the matter be referred back to the Bridges Committee with instructions to submit the names of two persons who, in their opinion, are best qualified to fill the appointments.'"

The recommendation was agreed to, and the Council, after transacting other business, adjourned to Thursday, the 17th.

COMPETITIONS.

Municipal Buildings, Bath.—A special meeting of the Bath Town Council was held on the 11th inst. to consider a report from the New Municipal Buildings Committee. The report recommended the adoption of the plans with the motto "Adelphi." The envelopes having been opened, it was found that "Adelphi" was Mr. J. M. Brydon, of London; "Lex," the second prize winner, Messrs. Burgess and C. B. Oliver; and "Wood," the third, Mr. T. B. Silcock, Bath. The report was adopted.

Correspondence.

To the Editor of The Builder.

"DECORATIVE ART OF JAPAN."

Sir,—Mr. J. Romilly Allen's courteous letter on my papers on the "Decorative Art of Japan" deserves much attention, and a statement of the best reasons I can find for not agreeing with him as to the genesis of the diaper from which,—I think he agrees with me,—the Chinese key-fret has been derived.

It is quite true that, as a method for constructing it, his suggestion is not only plausible but sound. But, *à priori*, I think the diaper is too elaborate to have been invented right off in its present form,—evolution must have played its part. And I have adopted the evolution theory because the stages of it seem to me still to survive. The limb of the pakwâ,—though not the entire combination of its broken lines,—does occur in diapers, more especially in the back-to-back example which I gave in my last paper, and the transition from this to the more complicated forms seems easy, gradual, and probable; and, moreover, all the stages are still in use. Moreover, I have never come across the interlaced pattern—Mr. Romilly Allen's fig. 2—on which his argument depends. I think I may say positively that it has never been used in Temple decoration by the Japanese; and I think I may venture on the opinion that it does not consist with the spirit of Japanese art.

I think I may also venture on another suggestion, that the svastika is itself derived from the bent limb of the pakwâ on which I have laid so much stress: four half-limbs being joined together at right-angles, the projections being arranged so that they should all point in the same line of revolution, in order to convey, as Mr. Romilly Allen says, the suggestion of rotary motion.

F. T. P.

Christmas Week.—The *Builder* for next week will be published on *Thursday morning*. All communications for the Editor must reach the office by *Wednesday morning*.

The Student's Column.

MARBLES.—XXV.

THE Iberian peninsula is particularly rich in rocks from which excellent marble could be manufactured, but with a few notable exceptions these resources are not drawn upon. When Spain was in the zenith of her power, and magnificent buildings were reared, the native marbles were largely utilised and to this day remain eloquent monuments of departed greatness; but that lethargic state into which the nation generally seems to have relapsed, and which invites the foreigner to construct the few railways and open up the vast mineral wealth rather than find sufficient energy to do the work herself, must be the same excuse for the present comparative insignificance of the Spanish marble trade. Even in those districts where local enterprise seems to have attempted to force Spanish marble upon the European market, the efforts have been mainly of a spasmodic character, by reason of the absence of adequate land carriage, and consequent high prices of the material. Of the many kinds which abound, we may mention that white, coarse-grained marble, taking a fine polish, occurs near Almeira; a statuary comes from Filabra in Grenada; white marble from Machael in the Sierra di Bacares was utilised in the Alhambra, and in modern times in some of the more important edifices in Madrid; whilst similar kinds of stone are raised at Velez-Rubio in Andalusia, at Valencia, and at Badajoz. Grey marbles, variously spotted and veined, are found at La Mancha in New Castile, Toledo, and Elvira. Red marbles come from Valencia, Molina, Murcia, Cueta in Leon, and the mountains of Guipuzcoa. La Mancha and Segovia produce black marbles; and a good breccia, consisting of angular fragments of black in a yellowish-red base, is found at Rielo in Arragon.

Of the Portuguese marbles, probably the best known is "Emperor's Red"—a pale red with dark red and brown veins. The pink and white St. Silvester marble comes from Villa Nova d'Ourem; it has been successfully employed in the Eastbourne Town Hall and in various buildings in our large cities. "Bardiglio" and white and red marbles are quarried at Montes Claros and district, in Alemtejo. Between Lisbon and Cintra are several workings in stone which is mostly of rose tints. White marbles occur at Estrennas and Vianna; Oeiras, near Belem, has a "brocatelle" with spots of red and brown: and "Iberian agate"—a highly-esteemed material—is found in the same district as the quarries of St. Silvester. The marble trade of Portugal is said to be larger than that of Spain.

Austria and Germany produce many kinds of ornamental stones, but very few have found their way in any quantity to the English market. Istrian marble is amongst the more noteworthy of them; it is of a light cream colour, is compact, and takes a good polish; fine examples of this material will be found in St. George's Hall, Liverpool. A large business is done at Sterzing, in the Tyrol, in working the porphyries and serpentines of the neighbouring district. A white statuary occurs near that place at Laas. Many marble quarries exist near Nassau on the Llahn, and the river transport greatly facilitates the expansion of the industry. At Hof, in Bavaria, there are also several handsome stones, as well as at Baireuth and Blankenburg.

Russian marble is not very well-known in this country, if we except the rich green malachites of the Urals, which have been so extensively employed in the decoration of the royal palaces of the Tsar and the Emperor of Germany; but quarries exist at Katerinburg, in islands of the lakes of Onega and Ladoga, and at other places in the empire.

It is unnecessary to describe in detail the marbles of Greece, Egypt, and Algeria, since so many have been already referred to in dealing with the history of the marble trade in these columns. We may mention, however, that, from recent observations,* it appears that the rocks from which the celebrated Parian marble was obtained are situated in the southern half of the Isle of Paros. This crystalline limestone is most likely of late Secondary age—Cretaceous. Mr. Swan remarks that the finest statuary marble, or lychnitis, varies from 5 ft. to 15 ft. in thickness in the quarries of St. Minas; it occurs in a bed of coarse-grained white marble with bluish-black veins. The coarse marble becomes dark in colour near the lychnitis both above and below it, and thus the layer of statuary marble is distinctly marked off. The dark colour is due to traces of binoxide of manganese and magnetic oxide of iron. It seems probable that the impurities have been withdrawn from the lychnitis and have become concentrated near the edges of the adjacent seams of limestone. The rocks are much disturbed and folded, and often dip at right-angles. The ancients avoided the marble lying near the axis of elevation as being of inferior quality to that found in other parts. When, a few years since, Parian marble was vigorously re-worked, Mr. Swan says it was obtained from that portion of the quarries where the inferior stone alluded to is developed, because it could there be obtained at least expense. This may partially account for the circumstance that modern sculptors were not very loud in their praises of the material.

The celebrated "Breccia di Verde" is found in Egypt, between the Red Sea and the Nile, near Siddt and Hummamet; the re-discovery of the quarries from which the well-known "onyx" marble and the "Egyptian porphyry" were respectively obtained have again placed these beautiful materials in the market.

Algerian marbles are conspicuous amongst the many ornamental stones from the Mediterranean. Some are raised near the village of Kleber, in the Montagne Grise, north-east of Oran,—they are of almost endless variety of tints. Near Tlemçen, in the same province, the "Algerian onyx" is found, and "Rouge Etrusque" is quarried near Chenouah. The Chemtou quarries in Tunis have been previously noticed in this series.

Cape Colony and Natal are by no means devoid of fine marbles, as the respective exhibits at the recent Colonial and Indian Exhibition plainly showed. The Troe Troe marble, Clanwilliam division, Cape Colony, attracted some attention; it has a white ground with small irregular light-blue veins running through it, and being finely crystalline takes a splendid polish. A good white marble is also found in the colony; and much of a similar class of stone has recently been discovered in Alfred county, Natal, some of which finds a market in England.

The Indian Empire possesses a large number of good marbles, which the natives have worked for centuries. The white crystalline "Makrana" marble quarried in Jodhpur, Rajputana, was extensively used in the Great Mogul monuments of Delhi and Agra. This material was employed in the construction of the Taj Mahal at the latter city. The front of the Ulwar screen shown at the exhibition last referred to, had some fine panels of this marble, perforated and carved in relief, fitted in a framework of black marble, antique wood, and supported upon three beautifully-carved white marble pillars, each 8 ft. in height. Decorative art, as applied to architecture, is nowhere in India more remarkably displayed than in the ancient cities of the land of the Rajas, or Rajputana. The white marble from Jodhpur, and the red sandstone of Bhartpur were the materials of which many of the forts and mosques of surrounding cities and the Fatehpur Sikri palaces were built. The exquisitely-coloured marbles of Jeypore Ajmere and the Jaisalmir were employed in decorating them. In addition to architectural work, Jeypore and Khansa,—a neighbouring town,—largely supply images of gods carved in marble. From the black marble of Ketri the native sculptors produce elephants and *jain* images. The stone carving of Agra is largely applied to trellises and very fine work in marble and alabaster. A red marble is found at Jaipur; a green serpentinous limestone at Ajmere, from the Arvali metamorphic rocks; and a fine white dolomite from the "marble rocks" in the Narbada, near Jabalpur. At Coimbatore, in Madras, there is a marble varying in colour from pink to grey and white, which receives a good polish, and is largely worked. The cream-coloured marble of Bellary is very compact At Tumkur, in Mysore, Nilgri in Orissa, Durha in Bengal, and many other places in India, ornamental stones are also largely worked.

Extensive tracts of marble of Silurian and Devonian ages occur in several places in New South Wales. There is a black variety from the Marulan, and white from the Cow Flat quarries, both of which have been used in

* R. Swan, "British Association Reports," Section C. Newcastle meeting. September, 1889.

flooring the great hall of the Sydney University. That near Wallerawang is described* as being thick beds of coralline limestone of very pure quality. It forms a compact marble of various tints,—white, cream, and dove-coloured, and sometimes with pink markings. It dresses well, takes an excellent polish, and may be obtained in blocks of convenient size. Being only seven miles from a railway station, it constitutes a convenient source of supply for the Sydney market. The red encrinital and coral marbles from the Tamworth district are very handsome when polished, and well suited for ornamental purposes; some are very similar in structure to certain of those from Derbyshire. Marbles are also found in the Moonbi Ranges, Kempsey, and other localities; and serpentines abound in the colony.

Queensland has several excellent ornamental stones. A light reddish-brown porphyry, having a felspathic base and a few quartz crystals, is worked at O'Connell Town, Brisbane. Its specific gravity varies from 2·14 to 2·16, it weighs from 133 to 135 lbs. per cubic foot, and absorbs from 7·15 to 8·8 per cent. of water. The Roman Catholic Cathedral, Brisbane, as well as the basement of the Government printing offices, and various other public and private buildings in the city, are constructed of this porphyry. Red and dark toned marbles also occur near Gladstone; and white, stained with green and brown from Coase's Hill, near that place, is another representative decorative stone.

The colony of South Australia exhibited a few marbles at the Colonial and Indian Exhibition. Those from Angaston are white and pink, the latter being granulated; the quarries have not long been opened, but the material is plentiful; the Kapunda marble is crystalline and white, exhibits dull streaks, various shades occur; and that from Rapid Bay is variegated, and difficult to work.

A coarsely-crystalline white marble is quarried in New Zealand, in the district of Oamuru, in Otago, and it takes a good polish.

GENERAL BUILDING NEWS.

BANK BUILDINGS, DUBLIN.—On the 14th inst. new offices of the Ulster Bank, Limited, in College-green, Dublin, were opened for business. The architect is Mr. Thomas Drew, R.H.A., who was assisted by Mr. R. C. Orpen, and the contractors were Messrs. Samuel H. Bolton & Sons, of Dublin. The building is of the Roman Ionic order. The front is divided into three bays by columns, surmounted by carved capitals supporting a cornice, above which the pediment and mansard roof rise. The columns stand on a basement stage 25 ft. above the level of the footway. The main entrance is 25 ft. high, above which there is a balcony. A wrought-iron gate, made by Singer, of Frome, opens into the vestibule. There are three doorways out of this vestibule; that on the right is to the manager's private residence, which is four stories high. The door on the left leads to one of the private official rooms, and that in front opens into the cash office. The cash office is 78 ft. by 40 ft., elliptical in form, and lighted by a central clear glass dome. Four polished red Cork marble Corinthian columns support the roof and stand 18 ft. high. The fittings are of mahogany, carved and finished by Mr. Harry Hems, of Exeter. The strong-rooms and safes cover a space of 78 ft. by 38 ft., and are enclosed in a circular wall, constructed of concrete, the entrance to which is guarded by one of Chatwood's iron doors. One of the central strong-rooms of the bank has been lined with solid steel by Messrs. Chatwood, of Bolton. The stone used is from the Ballinasloe quarries. The dado of the entrance porch and cash office is of Irish marble, and the columns in the latter are of red Cork marble. Messrs. Musgrave, of Belfast, have carried out the heating arrangements by hot water. The stone carving of the front and entrance porch of the building has been executed by Mr. Sharp, of Dublin, and his principal sculptor, Mr. Emery. Through Messrs. Patterson & Co., Belfast, the series of private security safes were constructed and put up by Messrs. Milner. The hydraulic passenger lift in the manager's private house, which runs from the front porter's rooms in the basement to the kitchen in the top of the house, 78 ft. high, was supplied by the American Elevator Company, who also put up the hydraulic lift in the cash office. Messrs. Oppenheimer, of Manchester, laid down the mosaic floor of the cash office and the parqueterie oak floors of the inner offices and waiting-rooms. The furnace for heating the hot-water pipes and coils is placed in the rear outside the buildings.

SOLICITORS' LIBRARY, EDINBURGH. — A new library for the Society of Solicitors before the Supreme Court of Scotland has been in course of erection for two years, and is now approaching completion. It is situated to the south of the Courts of Law, on the low level of the Cowgate, and to raise the library to the same plane as the court-rooms it was necessary to erect several stories underneath, which have been appropriated as dwelling-houses. To avoid the risk of fire being communicated to the library from the dwelling-houses, fireproof construction has been resorted to. The outward aspect of the library as seen from George IV. Bridge is very picturesque. The style adopted is late Gothic, and the material red sandstone. Mr. Dunn was the architect selected in competition. The windows of the library and subsidiary rooms contain medallion portraits in stained glass of eminent Scottish lawyers and jurists, executed by Messrs. Ballantine, of Edinburgh.

NEW CATHOLIC CHURCH AT KIRKINTILLOCH.—The memorial-stone of a new Catholic church, which is being erected at Kirkintilloch, was laid on the 28th ult. The plans were prepared by Mr. Peter Paul Pugin, architect, Westminster. The building is being erected a little to the west of the present chapel school, and the entire length will be 105 ft., breadth 50 ft., and the height above ground 53 ft. The building will be built of freestone rock-faced. Projecting from the north-east corner there is a sacristy. The church will accommodate 700, and is estimated to cost 5,000*l.*

TOWN HALL, LOCKERBIE, DUMFRIES.—On the 3rd inst. Lockerbie Town Hall buildings, Dumfries, were opened by Sir Robert Jardine, Bart., of Castlemilk. The architect was Mr. Frank J. C. Carruthers, Lockerbie, and the cost of the buildings, apart from the site, has been nearly 7,000*l.* The style of architecture is Scottish Baronial of the sixteenth century. Externally the most imposing features are the tower and the west façade fronting High-street. Above the roof of the building the tower has four angle turrets, corbelled out, and carried up to a height of 60 ft. above the street level, where a further corbelling occurs, and the turrets, also corbelled out, are carried up to form angle towers with conical roofs. The main roof of the tower is carried on four arches, springing between the angle towers, and carrying the clock pediment at a height of 75 ft. from the street, the roof being carried square to the height of other 25 ft., and surmounted by a timber lantern, the whole height of the tower being 115 ft. On the ground floor are the market hall (75 ft. long, and 43 ft. wide), the Town Clerk's chambers, and the library. On the second story are the lesser hall, cloak-rooms, and the large hall (75 ft. long, 43 ft. wide, and 30 ft. high to the crown of the ceiling, which is in the form of an eliptic curve). The hall is seated for 700 persons, while the platform is 24 ft. square.

CLASS-ROOMS, BEDFORD.—New class-rooms in connexion with Bunyan Meeting Sunday-schools, Bedford, were opened by the Mayor of Bedford on the 10th inst. The works have been carried out from the designs and under the superintendence of Messrs. Usher & Anthony, of Bedford, the architects, by the contractor, Mr. J. P. White, at a cost of about 1,300*l.*

ST. JAMES'S CHURCH, AYLESTONE-PARK, LEICESTER.—This is the second of the inexpensive churches built by the Leicester Church Extension Board that have been consecrated this year by the Bishop of Peterborough. St. Hilda's was consecrated in May last, and St. James's on the 3rd inst. The contract for the fabric, which is to hold about 600 people, was 2,350*l.*; that for the heating, fences, chairs, and other fittings about 500*l.*; and that for an ambulatory to connect the church with the Mission-room about 100*l.* The church is faced with white bricks, and red brick dressings and dado. The roof is in one span, with tie-beam trusses. There is a baptistry at the west end, but the chancel is not yet built. The nave is 89 ft. long, and 42 ft. wide inside. The architects are Messrs. R. J. & J. Goodacre, of Leicester, and the contractors are Messrs. T. & H. Herbert, of the same town.

FOREIGN AND COLONIAL.

FRANCE.—M. Bartholdi, the sculptor, has just completed a group representing Lafayette holding in his left hand the French and American flags and extending his right hand in the direction of Washington. The group, four mètres high, has been cast in bronze, and was commissioned by M. Pulitzer, editor of the *World* of New York, who intends to offer the group to the city of Paris, where it will probably be set up in the Place des Etats-Unis.——There is talk of transporting to the Louvre the pretty paintings by Boucher which decorate the Salle des Archives Nationales, where they are rapidly decaying.——The Russian church in the Rue Daru has been undergoing important works of restoration under the direction of M. Sauffroy, architect.——M. Michel-Malherbe, a sculptor of talent, has been commissioned to execute a marble bust of the late Emile Augier. The last, which is almost finished, is intended for the Institute.——The Architectural Section of the Académie des Beaux-Arts has given, as the subject for the Achille Leclère competition, "The Choir of a Cathedral." The competition will be settled at the end of February.——The Roads Committee of the Municipal Council of Paris has before it a proposal by M. Berlier, the engineer, for a tubular tramway to connect the butte Montmarte with the centre of Paris. It would be a metal tube of four mètres diameter, like that which is to be established between the Bois de Boulogne and Vincennes. The traction would be either by electricity or by rope.——The Municipal Council of Sèvres has voted the raising of a loan of 442,000 francs, with the object of restoring the Hôtel de Ville, formerly the Château of the Ducs de Brancas, and which contains one of the finest collections of woodwork, painting, and sculpture.——The Municipal Council of Breteuil has decided to erect a statue to the painter Ribot in one of the public places of the town.——The Government has decided that the strategical railway which serves the forts of the Place de Belfort should, in time of peace, be put at the disposition of the civil population.——The company of Paris, Lyons, and the Mediterranean has been commissioned to carry out the section of the railway in the valley of the Arve, between Cluses and Le Fayet. This line, very important for the defence of the Alps, is already carried out between Annemasse and Cluses.——The Société Centrale des Architectes has elected its officers for the following year as follows:—President, M. Daumet; Vice-Presidents, MM. Achille Hermant and Guadet; principal secretary, M. Loviot; assistant secretary, M. Roux; editing secretary, M. Boileau; architiste, M. Héret; treasurer, M. Bartaumieux; "censeurs," MM. de Joly, Alfred Normand, and Paul Sedille; members of council; MM. Roussi, Raulin, Hénard, Etienne, Julien, F. Jourdain, Rozet, Wallon, Aldrophe, and Chas. Gautier. MM. Bailly and Chas. Garnier have unanimously been elected honorary councillors.——M. Chas. Suisse, architect, has been elected president of the Société des Amis des Arts of the Côte d' Or.——The death is announced of M. Antonin Guerinot, an architect of talent and member of the Société Centrale. He was architect, among other buildings, of the Church of Enghien-les-Bains, and of the Hôtel de Ville of Poitiers. He had obtained a third medal in the Salon of 1876, a medal of the third class in the Exhibition of 1878, the Cross of the Legion of Honour in 1879. He was fifty-one years of age.——The painter Emile Bayard died last week, at Cairo. He was born in 1837 at La Ferte-sous-Jouarre; he entered, in 1853, the atelier of Léon Cogniet, and acquired great reputation as a designer. Among his work was one in very bad taste entitled "Sedan 1871," which aroused a great outcry against the painter who had received a decoration from Louis Napoléon not long before.

DRESDEN.—The Saxon budget for the financial year 1892-93 shows that much money will be spent by the Government on works of civil engineering in the course of the next few years. Some new harbour works on the Elbe (close to Dresden) will be constructed, at a cost of about 372,500*l.*, and a rearrangement of the railway termini of the city is to be made, at a cost of nearly 1,750,000*l.* Most extensive alterations and improvements are to be made on the Government railroads, and a number of new railway lines are to be built. No important new works of architecture, however, seem to be thought of.

SANITARY AND ENGINEERING NEWS.

BEXLEY SEWERAGE.—The Bexley Local Board has accepted the tender of Mr. George Osenton, of Westerham, for the construction, at a cost of 6,500*l.*, of 4¾ miles of pipe-sewers in St. Mary's Ward, which includes the old village of Bexley. The intended sewers will discharge at several points into the West Kent main sewers, which pass through the district. The tenders for the work ranged from 5,610*l.* to 16,700*l.* Messrs. Alfred Williams & Son, of Westminster, are the engineers.

RUGELEY WATERWORKS.—The Rugeley Local Board have appointed Mr. W. H. Radford, C.E., of Nottingham, their engineer to prepare plans and to carry out a scheme for the water supply of the district. It is proposed to bore into the Bunter sandstone on the hills above the town, and store the water in a covered reservoir, from which it will be supplied by gravitation. No pumping will be required.

DRAINAGE SCHEME, WHITCHURCH AND LLANISHEN, NEAR CARDIFF.—At the monthly meeting of the Cardiff Rural Sanitary Authority, held at Queen's Chambers on the 9th inst., their Surveyor, Mr. William Fraser, A.M.Inst.C.E., was instructed to prepare a scheme of drainage for the parishes of Whitchurch and Llanishen. Mr. Fraser, who produced two alternative schemes of water-supply for the parishes of Radyr and Pentyrch, was requested to amend one of the schemes for the further consideration of the Authority.

HYDRAULIC LIFTS, &C. — Messrs. Archibald Smith & Stevens are supplying to the University College at Nottingham, for the use of the students, a set of hydraulic machinery, comprising one of their "Reliance" lifts, a set of high pressure pumps, and an accumulator. The latter will also supply water for a hydraulic testing-machine.——The tender of Mr. J. Stannah, of Southwark Bridge-road, London, has been accepted for the erection of three hydraulic lifts for the new Parcels Post Office, Manchester.

* Catalogue of the Mining Exhibition, Crystal Palace, 1890, p. 83.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premium.	Designs to be delivered.
*Draining of Cairo	Government of Egypt	200*l.*	Jan. 31
*Technical and Public Library Building	Darwen Corporation	50*l.* 25*l.* & 10*l.*	Feb. 15.
Drainage Scheme, Conisbro	Doncaster U.R.S.A.	Not stated	Feb. 17
*Workhouse to accommodate 1,000	Guar. of St. Matthew's, Bethnal Green	100*l.* 50*l.* 25*l.*	No date

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer	Tenders to be delivered.
Road Improvement Works	Penarth Local Board	*Official*	Dec. 20
Villa Buckie, Elgin, N.B.	.....	Mr. Perry	Dec. 22
Sewage Works, Clifton Common, Brighouse	Clifton Highway	Sharp & Waller	do.
*Making-up Road, &c.	Lewisham Bd. of Wks.	*Official*	do.
Laying Sewer and Building Small Tank, Kingsthorpe, Northampton	Kingsthorpe, R S A...	Wm. Hull	do.
Shop and Premises, Woking Station	.....	Robt. Clamp	do.
Retorts and Fire Bricks, Gas Works	Halifax Corporation	Thos. Holgate	Dec. 23
Street Flags (4,000 sq. yds.)	Westhoughton L. B.	*Official*	do.
Two Semi-detached Cottages, Ely, Cardiff	.....	S. Rooney	do.
Sunday School, Class Rooms, &c., Clayton Heights, near Bradford, Yorks	.....	John Drake	do.
Streets Improvement, Blaenllecha, Ferndale	Ystradyfodwg L. B.	J. W. Jones	Dec. 24
*Broken Guernsey Granite	Southall-Norwood Loc. Bd.	*Official*	Dec. 28
*Road Works	Beckenham Loc. Bd.	G. B. Canton	do.
*Wrot Iron Tree Guards	Islington Vestry	J. P. Barber	do.
Extending Pier	Nairn T. C.	Wm. Smith	do.
Villa Residence Walls, &c, Reidhaven-street, Elgin, N.B	.....	Geo. Sutherland	do.
Alterations and Additions to Premises, Tonypandy, S. Wales	Co-operative Society	R. S. Griffiths	Dec. 29
*Road-making Works	Willesden Loc. Bd.	O. Claude Robson	do.
Shop Premises, Corn Market, Halifax	.....	G. Buckley & Son	do.
*Erection of Workshops, Stores, Iron Roof, &c.	Corp. of Reading	A. E. Collins	do.
*Works and Materials	Corp. of Liverpool	*Official*	Dec. 31
*7,000 yards of Rubbish	S. Cutler & Sons	do.	do.
*Cadets' Quarters, Woolwich	War Department	do.	do.
*New Road, Cobham	do.	do.	do.
Widening of Stone Bridge, Pontardawe	Glamorgan C. C.	do.	do.
Mission Chapel, Hamsterley	.....	Hicks & Charlewood	do.
*Making-up Roads and Laying Concrete Flags	Walthamstow L. B.	G. W. Holmes	Jan. 1

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor or Engineer.	Tenders to be delivered.
Heating Infirmary and Workhouse, Staincliffe	Dewsbury Un. Guar.	Holtom & Fox	Jan. 1
Iron Bridge (100 ft span) over River Till near Hedgeley Station	Northumberland C. C.	*Official*	Jan. 2
*Sewerage Works	Hucknall Forhead Loc. Bd.	H. Walker	Jan. 4
*Erection of Lock-up, Gt. Berkhamstead	Herts C. C. Standing Joint Com.	Urban A. Smith	do.
*Sinking and Steining Two Trial Shafts	Buckingham U.S.A.	Baldwin Latham	Jan. 5
*Carriage Repairing Shop, Neath	G. W. Ry. Co.	*Official*	Jan. 6
*Strengthening Pier Head, Erecting Pavilion, &c.	Brighton West Pier Co.	R. W. P. Birch	Jan. 7
*Sanitary Improvements at Workhouse	Westminster Union	J. Waldram	Jan. 8
*New Police Station at Romford	Essex Standing Joint Com.	H. Stock	do.
Alterations and Improvements, Police Station, Aberafon	Standing Joint Com.	*Official*	Jan. 9
*Sheds, Bentinck Dock, Kings' Lynn	Anglo-Belgian Steamship Co. Lim.	do.	Jan. 10
Additions and Alterations to Schools, Cross Inn, Ammanford	Llandebie Sch. Bd.	David Jenkins	Jan. 12
Floating Pontoon Dock, Avonmouth	Bristol Docks Com.	J. McCurrich	Jan. 14
*Erection of an Infirmary	Lewisham Union	A. & C. Harston	do.
*New Block and three Pavilions at Infirmary	Kensington Guardians	T. W. Aldwinckle	do.
*Water Supply Works, Warwick	Royal Agric. Soc.	E. M. Richards	do.
Stone Bridge over the Clyde at Rutherglen	Committee	Crouch & Hogg	Jan. 18
Re-building "Victoria" Hotel, West Harton, Tyne Dock	Matthew Wood	Henry Grieves	No date
Oak Work, &c., University College, Aberystwyth	College Authorities	C. J. Ferguson	do.
Steam Pipe Culvert (212 yds.)	Blaenavon Co. Lim.	Wm. Evans	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
Borough Surveyor and Engineer	Corp. of Luton	200*l.* &c.	Dec. 28
*Architectural Assistant	Corp. of Cardiff	100*l.* rising to 150*l.*	do.
*Surveying and Engineering Assistant	do.	do.	do.
*Surveyor's Assistant	Bristol U S.A.	3*l.*	Dec. 31
*Engineering Assistant	Boro' of Plymouth	100*l.* rising to 140*l.*	Jan. 2
District Surveyor	S. Stoneham (Hants) Highway Board	120*l.*	Jan. 6
*Chief Surveyor	St. Pancras Vestry	600*l.*	do.

Those marked with an Asterisk (*) are advertised in this Number. *Competitions, p.* iv. *Contracts, pp.* iv., vi., & viii. *Public Appointments, p.* xviii. & xix.

MISCELLANEOUS.

Manchester Architectural Association.—Owing to the fusion of this Association with the Manchester Society of Architects, the members met together at dinner for the last time at the Grosvenor Hotel, Manchester, on Tuesday last, the President, Mr. T. Chadwick, A.R.I.B.A., in the chair. The toast of "The Royal Institute of British Architects" was proposed by Mr. J. S. Hodgson, and responded to on behalf of the Institute by Mr. Lawrence Booth, F.R.I.B.A. Testimonials were then presented by the Chairman (on behalf of the members of the Association) to Mr. A. H. Davies-Colley, A.R.I.B.A., and Mr. J. D. Mould, A.R.I.B.A. Mr. Davies-Colley has been Treasurer of the Association since its formation (a period extending over sixteen years), and Mr. Mould has acted as Hon. Secretary for the past six years. The healths of both gentlemen were given with musical honours, and they responded. The toast of "The past officers of the Association" was proposed by Mr. T. Cook, and responded to by Mr. Frank W. Mee. "The success of the newly-constructed Manchester Society of Architects" was proposed by Mr. A. H. Davies-Colley, and responded to by Mr. P. E. Barker, A.R.I.B.A. The toast of "The Chairman" was then given, and the proceedings terminated.

The Sanitary Institute's Examination for Inspectors of Nuisances.—At an examination for Inspectors of Nuisances, held in London on December 4 and 5, 107 candidates presented themselves. Questions were set to be answered in writing on the 4th, and the candidates were examined *viva voce* on the 5th. Seventy candidates were certified to be competent, as regards their sanitary knowledge, to discharge the duties of Inspector.

Carlisle Architectural, Engineering, and Surveying Association.—We hear that this Association, which was formed some short time ago in the City of Carlisle, promises to become a successful and important body in the city if the interest and energy be continued with which it has started. The meetings are held fortnightly in the Town-hall. The inaugural address was given on October 20 by the City Engineer and Surveyor, Mr. W. Howard Smith, A.M.Inst.C.E., and since that date papers have been given on "Cremation considered generally," and "The Heavier class of Lifting Machinery and Computation of Strains." The papers yet to be given are "Sewerage and Sewage Disposal," "Rational Building," "Road and Street-Formation," "Girder-work and Strains," "The City Building By-Laws," "Gas-holder Construction," and "The Sanitary Arrangements of Public and Private Buildings."

Liverpool Engineering Society.—The fourth ordinary meeting of this Society for the present session was held on the 9th inst., Mr. H. Percy Boulnois, M.Inst.C.E., Vice-President, in the chair. After the ordinary business of the meeting, Mr. Ivan C. Barling read a paper entitled, "Sounding Apparatus." The author divided sounding apparatus broadly into two classes, one for use in navigation, and the other for surveying, both for engineering works and chart-making. Under the first class, the hand-lead, the deep-sea lead, Massey's lead, and Sir William Thomson's lead were noticed, and the use of each of them described. Having pointed out that the requirements of a sounding-machine for hydrographical and engineering surveying were quite different to the requirements for navigation, the author proceeded to describe the pole, the hand-lead, and Sutcliffe's machine. The relative merits, in relation to accuracy and speed of working of the various forms of apparatus were discussed, and the author described some efforts which he himself had made to construct a more perfect instrument. Apparatus and models were laid on the table to illustrate the paper, and these from time to time were operated. A discussion upon the paper followed.

"Reredos, Boston, Lincolnshire."—The architect of this reredos, mentioned in our last, p. 452, is Mr. W. S. Weatherley.

"Incongrous."—We find that we did an injustice to Mr. H. Wilson in attributing this piece of mis-spelling to him in a paragraph last week; it appears it was that of his assistant who copied a pencil draft of his letter; but the writing was not unlike his own, and so many architects' letters (we regret to say) contain mistakes in spelling, that one more could occasion no surprise.

Trade Festivity.—The staff employed by Mr. Harry Hems, at Exeter, were entertained by their employer to supper on the 12th inst. The affair is an annual one, the present being the twenty-fifth gathering of the sort. The host occupied the chair, and Mr. Frank Dyer, the senior craftsman (for twenty-two years), the vice-chair. The piano and violins were presided over by the Misses Hems and other ladies, whose performances and singing added much to the pleasures of the gathering.

A Bad Pre-eminence.—According to Kemp's *Mercantile Gazette*, the number of failures in the building and timber trades in England and Wales gazetted during the week ending December 12 was fourteen. The number in the corresponding week of last year was eight, and in the corresponding week of 1889 the number was six.

St. James-the-Great, Bethnal Green-road.—A summons, taken out by the London County Council, against "the owner of the Red Church," —St. James-the-Great, Bethnal Green-road,—has resulted in the making of a magistrate's order "on the owner" to comply with a notice to take down certain parts of the structure. These, being in an unsafe state, comprise the stone and brick work of the spire, the spire pinnacles, with the four gables. Part of the spire lately fell through the roof. Mr. Coke, the vicar, repudiates all ownership of the fabric, and represented his inability to himself undertake its repair. The Council urged that in failure of an order upon the owner, they could serve notice upon the building itself; and then, should that be disobeyed, were under an obligation to do he work, charging the cost against the possessors. St. James-the-Great is one of the churches established under Sir Robert Peel's Act, and, it is stated, does not come under a local act whereby parishioners can be called upon to support certain district or parish churches at Bethnal Green. This church, according to "Mackeson's Guide," was built in the Early English style, after Blore's designs, in 1843-4, by two friends of the late Bishop Blomfield.

Reredos, St. Mark's, Torquay. — A new reredos, which has been placed in the Church of St. Mark's, Torquay, was unveiled on the 28th ult. The reredos is almost entirely built of English alabaster. Where columns occur they are wrought in serpentine from the Lizard. The work is of fourteenth century character. The reredos is raised upon three foot-paces of polished Devonshire marble. There is a moulded plinth at the base, but above it is all plain polished ashlar work as far up as the super-altar, which is moulded on the face, and enriched by carved pateræ. Above the re-table, in the midst of carved detail, are the statues and sculpture. The central compartment is recessed, and has a projected and groined canopy, from the angles of which rise crocketted pinnacles. The sculptured subject is a representation of the Crucifixion. The statues, standing upon pedestals within their respective niches in the flanks, represent SS. Matthew, Mark, Luke, and John. The reredos has been carried out by Messrs. Harry Hems & Sons, Exeter, under the direction of Messrs. Tait & Harvey, architects, Exeter.

The Proposed Issue of One-pound Notes.—It would seem that the Chancellor of the Exchequer, notwithstanding his avowed preference for hard cash, is seriously contemplating the creation in England of a 1*l.* paper currency. That this change, if carried out, will prove in several ways convenient we cannot doubt. There is also another aspect of the case, which cannot well be overlooked. English notes of small value are sure of a circulation even more wide and free than that attained even by their equivalents in many other countries. They will be fingered and thumbed in succession by innumerable holders of all sorts and conditions, clean and unclean, sick, healthy, infected, or innocuous. Undoubtedly they must often carry in their folds the germs of contagion, the more so that their surface cannot long remain unsoiled by ordinary dirt. We must, therefore, express a hope that, should the proposed issue be effected, the authorities of the Exchequer will bear this point in mind, and will do whatever can be done to render the change a safe as well as a convenient one. The crisp smoothness of Bank of England paper constitutes a form of safeguard. Another must be looked for in such a limitation of the new currency as will prevent its acquiring the scandalously filthy fu-tiness which has hitherto marked the distribution of small paper money.—*Lancet.*

The English Iron Trade.—Business in the English iron market remains quiet, and with the near approach of the holiday season little change can be expected. The Scotch warrant market is

still inactive. Cleveland warrants exhibit a declining tendency, but a fair demand exists for hematite warrants. Crude-iron manufacturers in South Staffordshire, unlike those of other districts, continue to experience an active demand. The manufactured iron trade is still only moderately employed. The tinplate market, although still dull, displays signs of improvement. Steel ship-building material is in good request, but other branches of the steel trade are quieter. Engineers and shipbuilders, on the whole, are fairly well off for work. The coal trade generally is slack.—*Iron.*

HUMPHREYS, LIMITED.—We have received the prospectus of this company, which is being formed, with a capital of 100,000*l.*, for the purpose of taking over, as a going concern, continuing and further developing the well-known iron buildings and roofing business of Mr. J. C. Humphreys, of Knightsbridge and elsewhere. The business is a development of the iron and steel business established upwards of fifty years ago by the vendor's father, and has become an industry of great and increasing importance, well known not only in Great Britain, but throughout the world. Mr. Humphreys is to join the Board of Directors after allotment. This appears to be a company which is not over capitalised, seeing that, according to the accountants' report, the average profits for the past three years have been 10,000*l.* per annum. The business is an extensive and expanding one, and the directors are men who thoroughly understand the work. A notable feature of the company is that 10,000*l.* in ordinary shares will be allotted amongst the staff and *employés* who have assisted in bringing the business to its present position. Mr. Humphreys informs us that his principal reason for forming the company is so as to have separate organisations of (1) the iron buildings business, and (2) his Knightsbridge estate. The prospectus will be found in our advertising columns.

MEETINGS.

SATURDAY, DECEMBER 19.

Sanitary Inspectors' Association. — Extraordinary general meeting to elect Branches of the Association, and other business. 6.30 p.m.

SUNDAY, DECEMBER 20.

Sunday Lecture Society.—Professor Vivian B. Lewes on "Flame and the Causes of its Luminosity." 4 p.m.

MONDAY, DECEMBER 21.

Liverpool Architectural Society. — The Rev. F. F. Grensted on "Egypt as a Home of Early Art." II. 7 p.m.

TUESDAY, DECEMBER 22.

Glasgow Architectural Association.—Mr. Cook on "Electric Lighting." 8 p.m.

WEDNESDAY, DECEMBER 23.

Liverpool Engineering Society.—Mr. A. W. Brightmore on "Methods of Collecting Water." 8 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

16,093.—WHITE LEAD: *R. MacIvor and W. Smith.*—This invention relates to what is claimed to be a greatly improved process for making white lead by treating litharge or "massicot" with a heated solution of acetate of ammonium in a closed vessel. The conversion is quickly effected without danger from the escape of ammonium fumes.

14,963.—SAW SETS: *C. Morrill.*—This relates to the fitting of a detail in mechanical saw sets whereby a "housing" or enclosure is made to prevent the dust and refuse to settle in the convolutions of the spring and clog the movement.

15 438.—FASTENING FOR CASTORS, DOOR-KNOBS, &C.: *W. Isaacs.*—The fastening here referred to is in the form of a split wedge cone, and a triangular cut. The two halves of the wedge are fixed on the socket by the action of a tapered screw, which expands the head of the wedge on screwing up.

16,768.—LIFTING LATCHES: *H. H. Green.*—To prevent "Norfolk" or similar pattern latches being lifted a screw or pin is by this patentee put through the front of the "keep."

535.—GLAZED SASHES: *G. Wise.*—To lead off the moisture in glazed sashes, a metal condensation channel, divided into chambers, is fitted into the lower rails of the sash.

596.—FIREPLACES: *E. Wright.*—In the form of grate referred to in this patent, a fire-box, with closed sides and a grate or airopening, is combined with an ash-pit, into which the necessary air for effecting the combustion of the fuel is introduced from outside. This air is caused to pass through the openings in the bottom of the fire-box, but can be cut off when the fire is well alight.

598.—SPEAKING-TUBES, &C.: *H. A. Cutmore.*—The ball of the pneumatic tube is made to signal by pressure, as well as protected by a casing to form a means of communication in the usual way.

757.—DISINFECTING APPARATUS: *A. Carns.*—This specification refers to a combination of a lever and box pivoted so as to be drawn over or tilted when the handle of the closet is pulled and weighted so as to return to its original position when it is released.

NEW APPLICATIONS FOR LETTERS PATENT.

November 30.—20,803, J. Dewhurst, DisinfectingWater-closets, &c.—20,806, A. Illidge, Sash-fasteners.—20,815, H. Dent and J. South, Furnaces and Domestic Fireplaces.—20,819, J. Manock, Ploughing, Brushing, Flushing, and Disinfecting Sewers.—20,821, H. Johnson, Valve Ventilators.—20,853, E. Heydenreich, Tool Holder.

December 1.—20,955, O. Hanneborg, Ditching and Tile-laying Machine.—20,973, O. White and J. Williams, Fastenings for Doors, &c.

December 2.—20,998, A. Vincke, Window-frames and Fittings.—21,004, H. Cribb, Preparing, Fitting, and Laying Blocks for Floors, &c.—21,024, W. Wright, Hanging Window-sashes.—21,030, H. Farwig, Stove that can be used either as an open or slow-combustion stove, and for Warming and Ventilating two or more Rooms at the same time.

December 3.—21,083, W. Whitehead, Recording and Checking Workmen's Time, &c.—21,088, R. Roberts, Accessories for Pedestal Water-closets.—21,089, L. Kennedy, Brick and Tile Machines.

December 4.—21,142, W. Adams, Ceiling-roses for Electrical Fittings.—21,148. J. McHardy and W. Garland, Upright Saws.—21,185, J. Reaney, Building, and Materials for same.—21,196, M. Neuerburg, Cowl or Windguard for Chimneys and Ventilating Shafts.—21,201, W. Diprose, Sash-fastener.

December 5.—21,237, F. Webster and W. Thorman, Fire-stoves, &c.—21,240, R. Boyle, Ventilators.—21,279, W. Wigg, Venetian red.—21,304, J. Callie and J. Brown, Step-ladder.

PROVISIONAL SPECIFICATIONS ACCEPTED.

17,653, N. Sorensen, Locks for Doors.—18,862, W. Gleave, Pipe-joints.—18,927, T. Knell, Fastening for Door-knobs and Handles.—18,983, W. Astell and J. Tostevin, Sash-fasteners. — 19,261, J. Fagan, Flushing Cisterns for Water-closets. — 19,264, T. Poyser, Wood Screws.—19,276, R. Gries, Construction of Floors, &c.—19,439, J. Bott, Self-locking Bolts.—19,443, J. Bishop, Ventilation of Dwelling-houses, &c.—19,511, T. Main, Greenhouses, &c.—19,887, A. McNerney, Hanging of Doors and Shutters, whereby the closing of same may be rendered automatic without the aid of springs.—19,998, H. and W. Defries, Window-frames.—20,406, F. Lynde, Drain-pipes, &c.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

787, J. Russell, Stove-grates. — 1,632, T. Tullock, Glazing Greenhouses, &c.—1,816, H. Lastelle, Construction of Buildings.—1,834, W. Horn, Screen-door.—1,940, H. Hermann, Parquet Floor.—2,091, T. Hughes. Artisans' Dwellings or Workmen's Cottages —7,909, C. Dunnill & Co., Limited, and F. Smith, Tiles, &c.—18,765, P. Newton, Machines for Channelling Stone.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

DECEMBER 7.—By *Robson & Perrin*: 52 and 54 Langham-st., Marylebone, u.t. 12¼ yrs., g.r. 40*l.*, r. 160*l.*, 710*l.*

DECEMBER 8.—By *E. & F. Swain*: 39, Ladbroke-grove, Notting-hill, f., 1,750*l.*—By *Debenham, Tewson, & Co.*: 41, Devonshire-st., Bloomsbury, f., r. 40*l.*, 900*l.*; 21, Colville-ter., Bayswater, u.t. 70 yrs., g.r. 16*l.*, r. 80*l.*, 600*l.*; 208, Long-lane, Bermondsey, u.t. 34 yrs., g.r. 24*l.*, 950*l.*—By *Reynolds & Eason*: 4 and 6, Essex-st., Kingsland, u.t. 78 yrs., g.r. 14*l.* 15s., r. 70*l.*, 515*l.*—By *C. & H. White*: 67, 68, and 69, James-st., Lambeth, f., r. 84*l.* 10s., 650*l.*; 75, 76, 79, and 80, James-st., f. r. 100*l.* 12s., 850*l.*; 11, 12, and 13, Granby-gardens, f., r., 52*l.*, 395*l.*; 5 and 7, Daleview-rd., Stamford-hill, u.t. 68 yrs., g.r. 12*l.*, 400*l.*; 9, Loughborough-st., Kennington, u.t. 14 yrs., g.r. 3*l.* 3s., 120*l.*; 40, Aylesbury-st., Walworth, u.t. 17 yrs., g.r. 2*l.* 15s., 110*l.*; 17 and 18, William-st., Kennington, u.t. 6 yrs., g.r. 3*l.*, 80*l.*—By *M. Liell*: 71, High-st., Homerton, f., 450*l.*; 49 to 53, Orwell-rd., Bromley, f., r. 149*l.* 10s., 1,610*l.*; 11 and 13A, Devon's-rd., f., r. 62*l.* 10s., 925*l.*; 4 and 6, Devon's-rd., u.t. 71 yrs., g.r. 4*l.*, 610*l.*

DECEMBER 9.—By *Clinton & Co.*: F.g.r. of 19*l.* 5s., with reversion in 83 yrs., Brayard-rd., Peckham, 495*l.*; f.g r. of 50*l.* with reversion in 68 yrs., Stanbury-rd., 1,325*l.*—By *Baxter, Payne, & Lepper*: 73, Abbott-rd., Poplar, u.t. 82 yrs., g.r. 5*l.*, r. 33*l.* 16s., 250*l.*—By *Hobson, Richards, & Co.*: 183 and 185, Dalston-lane, Dalston, u.t. 17 yrs., g.r. 40*l.*, r. 120*l.*, 430*l.*; 55 and 57, Lowden-rd., Herne-hill, u.t. 74 yrs., g.r. 9*l.*, r. 50*l.*, 380*l.*—By *H. Griffin*: A plot of freehold land, Clapham-junction, area 4,000 ft., 850*l.*; 1, 3, 16, and 18, Carpenter-st., Battersea, u.t. 79 yrs., g.r. 17*l.*, 400*l.*—By *L. Farmer*: 1 and 1A, Goldsmith's-pl., and 1 and 1A, Goldsmith's-gardens, Kilburn, u.t. 19 yrs., and u.t. 3 yrs., g.r. 71*l.* 10s., 155*l.*; 2 to 6, Goldsmith's-pl., u.t. 53 yrs., g.r. 2*l.*, rent-charge, 20*l.*, 2,320*l*; 1A, 3, 13, and 15, Albert-rd., u.t. 68 yrs., g.r. 15*l.* 15s., 810*l.*; Laundry Premises, Springfield-gardens, u.t. 53 yrs., g.r. 2*l.*, 600*l.*

DECEMBER 10.—By *Field & Sons*: 6 to 12 (even) Jamaica-rd., Bermondsey, u.t. 38 yrs., g.r. 18*l.* 12s., 1,240*l.*; 30, York-st., Hackney, u.t. 38 yrs., g.r. 2*l.* 16s., 240*l.*—By *C. C. & T. Moore*: F.g.r. of 30*l.*, with reversion in 88 yrs., Balaam-st., Plaistow, 750*l.*—By *P. H. Clarke*: 14 to 20, Stewart's Cottages, Bromley-by-Bow, f., 1,310*l.*; 6 and 8, Penge-rd., Norwood, u.t. 70 yrs., g.r. 8*l.*, r. 64*l.*, 500*l.*—By *Stimson & Sons*: 88, Lyndhurst-rd., Peckham, f., 360*l.*; 3, Clifton-rd., u.t. 55 yrs., g.r. 4*l.* 15s. 3d., 225*l.*; 43 to 49 (odd), Gurney-st., Walworth, u.t. 51 yrs., g.r. 18*l.*, 1,250*l.*; 118, Lorrimore-rd., u.t. 58 yrs., g.r. 4*l.* 10s., 290*l.*; 16, Grosvenor-st., Camberwell, u.t. 19 yrs., g.r. 4*l.* 4s., r. 30*l.*, 175*l.*; 1, Beaumont-st., Marylebone, u.t. 26 yrs., g.r. 90*l.*, 225*l.*; 161 and 163, King's-rd., Kingston-hill, u.t. 87 yrs., g.r. 12*l.* 10s., 495*l.*—By *Allen & Hoar*: 1 to 6, Howard-villas, Hampstead, u.t. 96 yrs., g.r. 39*l.*, r. 170*l.*, 1,445*l.*; 136, Glengall-rd., Kilburn, f., 460*l.*; f.g.r. of 26*l.*, with reversion in 99 yrs., Glengall-rd., 650*l.*; f.g.r. of 19*l.*, with reversion in 99 yrs., Charteris-rd., 465*l.*

DECEMBER 11.—By *R. W. Mann & Son*: "Thornbury Villa," Balham, u.t. 8 yrs., g.r. 5*l.* 10., 55*l.*, 160*l.*—By *G. A. Wilkinson & Son*: "Grove Villa," Cambridge pk., Wanstead, f., 1,470*l.*; "Grange House," "The Hollies," "The Lindens," Cambridge-rd., f., r. 145*l.* 10s., 1,510*l.*; a plot of freehold land, 165*l.*; "Leigh House," Primrose-rd., Woodford, u.t. 86 yrs., g.r. 5*l.* 5s., r. 26*l.*, 185*l.*; "Glenville," u.t. 86 yrs, g.r. 5*l.* 5s., r. 30*l.*, 170*l.*; the lease of 18, King's Arms-yd., City, u.t. 6½ yrs., r. 430*l.*, 300*l.*

[*Contractions used in these lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G. ton	9/0/0	0/0/0
Teak, R.I... load	9/10/0	15/0/0
Sequoia, U.S.ft.cu.	2/3	3/0
Ash, Canada load	2/10/0	4/0/0
Birch, do.	3/0/0	4/5/0
Elm, do.	3/10/0	4/15/0
Fir, Dantsic, &c.	2/0/0	3/10/0
Oak, do.	2/10/0	4/10/0
Canada.....	5/0/0	7/0/0
Pine, Canada red	2/10/0	3/10/0
Do, yellow	2/10/0	5/0/0
Lath, D'ntsic, fath	5/5/0	6/10/0
St. Petersburg	5/10/0	7/10/0
Deals, Finland, 2nd & 1st std 100	8/10/0	10/10/0
Do, 4th & 3rd..	7/10/0	8/10/0
Do. Riga	6/10/0	8/0/0
St. Petersburg, 1st yellow ..	10/10/0	15/0/0
Do. 2nd yellow	8/10/0	10/0/0
Do. white	/0/0	10/10/0
Swedish	7/15/0	16/0/0
White Sea	8/10/0	17/10/0
Canada, Pine 1st	19/10/0	25/10/0
Do. do. 2nd....	14/10/0	16/10/0
Do. do. 3rd, &c.	6/10/0	10/10/0
Do. Spruce. 1st	8/10/0	11/0/0
Do. do. 3rd & 2nd.....	6/10/0	8/0/0
New Brunswick	7/0/0	7/10/0
Battens, all kinds	3/10/0	15/10/0
Flooring Boards, sq., 1 in. prep. 1st	£/8/6	0/14/6
Do. 2nd.....	0/7/6	0/11/3
Other qualities	0/5/3	0/8/0
Cedar, Cuba ..ft.	/3½	/4½
Honduras, &c.	/3½	/4½
Mahogany, Cuba,	/4½	/6½
St. Domingo, cargo av	/4½	/6½
Mexican do. do	/4	/5
Tobasco do. do	/5½	/7
Honduras do..	/5½	/6½
Box, Turkey ton	4/0/0	13/0/0
Rose, Rio.....	10/0/0	20/0/0
Bahia	9/0/0	18/0/0
Satin, St. Domingo . ....ft.	0/0/9	0/1/3

TIMBER (*continued*).		
Satin, Porto Rico	0/0/10	0/1/6
Walnut, Italian..	0/0/3½	9/0/7
METALS.		
IRON—Pig, in Scotland .....ton	2/7/3	2/7/6
Bar, Welsh, in London.....	6/0/0	6/2/6
Do. do. at works in Wales	5/10/0	5/12/6
Do. Staffordshire, in London	6/10/0	6/15/0
COPPER—British, cake and ingot	48/0/0	50/0/0
Best selected ..	50/0/0	51/0/0
Sheets, strong..	58/10/0	59/10/0
Chili, bars	45/2/6	45/10/0
YELLOW METAL lb.	0/0/5½	0/0/5½
LEAD — Pig, Spanish ....ton	11/5/0	11/6/3
English, com. brands	11/5/0	11/7/6
Sheet, English, 3 lbs. per sq. ft. and upwards ..	13/5/0	0/0/0
Pipe	13/15/0	0/0/0
ZINC — English sheet .....ton	26/0/0	0/0/0
Vieille Montagne.....	26/10/0	0/0/0
TIN—Straits	90/5/0	90/15/0
Australian	90/5/0	90/15/0
English Ingots	94/10/0	95/0/0
OILS.		
Linseed .....ton	19/0/0	19/5/0
Cocoanut, Cochin	26/15/0	0/0/0
Do. Ceylon	23/10/0	23/15/0
Palm, Lagos	23/0/0	23/10/0
Rapeseed, English pale	29/10/0	0/0/0
Do. brown	28/0/0	0/0/0
Cottonseed ref...	18/7/6	18/10/0
Oleine	0/0/0	0/0/0
Lubricating, U.S.	4/10/0	5/10/0
Do. refined	6/0/0	11/0/0
TAR—Stockholm barrel	0/19/0	1/0/0
Archangel	0/12/6	0/0/0

TENDERS.

*** **Next week the *Builder* will be published on *Thursday morning*. All communications for the Editor must reach the office on *Wednesday morning*. Lists of Tenders, to secure insertion next week, must arrive *before 12 noon on Wednesday*.**

BARNSLEY.—Accepted for the erection of schools and a master's house, at Birdwell, for the Worsbro' School Board. Messrs. Senior & Clegg, architects, 15, Regent-street, Barnsley:—

Excavator, Mason, and Bricklayer.—J. & T. Taylor, Barnsley	£2,579	0	0
Carpenter and Joiner.—T. & J. Hawley, Penistone	730	0	0
Plumber and Glazier.—S. Rushforth, Barnsley.	198	0	0
Plasterer.—T. Lindley, Barnsley	137	0	0
Slater.—Pickles Bros., Leeds	194	0	0
Painter.—Treeman & Dwight	30	3	2

BRANDON (Durham).—For the erection of house, shop, and cottage at Meadowfield, for Mrs. Johnson. Mr. H. T. Gradon, architect, Durham:—

Jas. White, Shieldfield, Newcastle-on-Tyne*	£342	0	0

* Accepted.
[Four tenders received.]

CARDIFF.—For the restoration of two warehouses, &c., damaged by fire, Spital-buildings, for Mr. A. H. Oliver. Mr. J. P. Jones, architect. Quantities by the architect:—

J. Gibson	£195	0	0	D. Davies.....	£152	0 0
J. Allan	190	0	0	Turner & Sons	152	0 0
Jones Bros.....	176	0	0	J. Hopkins	150	0 0
T. Richardson	175	0	11	Williams & Thomas..	149	18 0
G. H. Hodgkinson	165	15	9	Williams & Williams	128	3 6
G. Griffiths.....	165	0	0	J. W. Rodger*	125	0 0
J. Styles	157	19	0			

* Accepted.
[All of Cardiff.]

CHESHAM.—For new shop front, and alterations at premises, High-street, Chesham, for Mr. Jas. Mayo. Mr. Geo. H. Green, architect and surveyor, Chesham:—

A. Mead, Chesham (accepted)	£129 0 0

CHESHAM.—For erecting two houses and factory, Bellingdon and Higham-roads, Chesham, for Messrs. Geo. Hawes & Son, Chesham. Mr. Geo. H. Green, architect, Chesham:—

Fredk. Darvell, Chesham (accepted)	£1,538 0 0

CHESHAM.—For erecting house, Stanley-avenue Estate, Chesham, for Mr. H. G. Webb. Mr. Geo. H. Green, architect, Chesham:—

Fredk. Darvell, Chesham (accepted).....	£487 0 0

FRINTON-ON-SEA (Essex).—For the erection of a private house for Mr. G. Storey. Mr. W. G. Gillingham, architect, Frinton-on-Sea:—

H. Gladwell	£794	0	M. Potts 469 10
F. Dupont	575	0	J. C. Allen, Clacton-on-Sea (accepted) 465 0
W. Day	470	0	

GELLIGAER (Glam.).—For the erection of a school at Brithdir, for the School Board. Mr. John Williams, architect, Morgantown, Merthyr Tydfil:—

John Williams.....	£2,472	7	6
Thomas Rees.....	2,100	0	0

Thomas Davies, *rid* Pontlottyn, Cardiff (accepted) . £1,891 0 0

LEEDS.—Accepted for the erection of Apperley and Greengates Church. Messrs. Kendall & Bakes, architects, Calverley Chambers, Victoria-square, Leeds. Quantities by the architects:—

Mason.—T. Obank & Sons, Idle, near Bradford..	£1,507	0	0
Joiner.—T. Obank & Sons, Idle, near Bradford..	443	0	0
Plumber and Painter.—A. Higginbotham, Idle, near Bradford.....	206	0	0
Plasterer.—F. Hollings, Idle, near Bradford....	91	15	0
Slater.—T. & A. Thornton, Eccleshill, near Bradford	123	18	0
Total	£2,371	13	0

LEEDS.—Accepted for the erection of a block of four houses at Calverley. Mr. C. S. Nelson, architect, 10, Park-row, Leeds:—

Mason.—Wright North, Idle.....	Total amount of contracts, £2,011 8 2
Joiners.—J. Barker & Sons, Calverley	
Plumber and Painter.—A. Barraclough, Calverley	
Plasterer.—A. Taylor, Eccleshill	
Slaters.—Sharp & Harper, Leeds	

LEEDS.—For the enlargement of the covered service reservoir at Moortown, for the County Council. Mr. Thos. Hewson, M.Inst.C.E., Municipal Buildings, Leeds:—

Gould & Stevenson, Hillidge-road, Hunslet, Leeds	£4,246 0 0

LONDON.—For the electric lighting of the Central Offices of the London County Council, Spring-gardens. Mr. A. R. Binnie, Engineer :—

Suter & Co.	£2,996	0	0
Lawrence, Scott, & Co.	2,815	0	0
Siemens, Bros., & Co.	2,715	0	0
Lund, Br s , & Co..	2,600	0	0
Spagnoletti & Co.	2,590	0	0
Girdlestone & Co.	2,300	0	0
Sharp & Kent	2,300	0	0
Johnson & Phillips	2,288	0	0
Ewart & Son	2,230	0	0
D. W. Goolden & Co.	2,229	0	0
Latimer, Clark, & Co.	2,192	7	0
Crompton & Co.	2.140	0	0
Brush Electric Engineering Co.	2,136	0	0
Planet Electrical Engineering Co..	2,056	8	2
Mather & Platt	2,000	0	0
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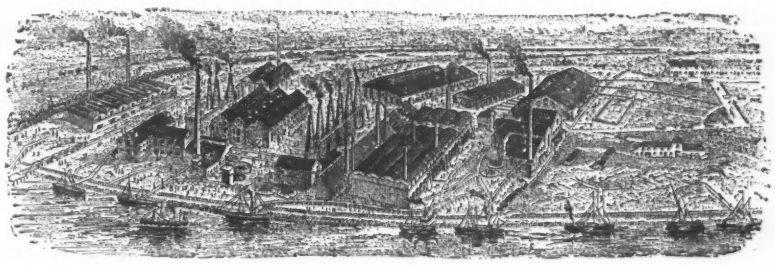

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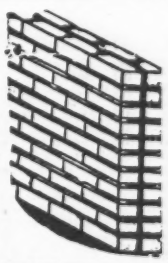

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BRISTOL URBAN SANITARY AUTHORITY.

SURVEYOR'S ASSISTANT.

The Sanitary Committee invite APPLICATIONS for the post of a SURVEYOR'S ASSISTANT in one of the three Districts into which the Borough is divided. Salary 3*l.* per week, rising to 4*l.* per week.

The person appointed will be required to live in the District to which he may be attached, and to give the whole of his time to the duties of his office.

Preference will be given to Candidates holding certificates of having passed the examination for Surveyorships under Municipal Corporations, instituted by "The Incorporated Association of Municipal and County Engineers."

Applications, stating age and previous experience, with not more than three testimonials of recent date, must be forwarded to the undersigned on or before the 31st DECEMBER, endorsed "Surveyor's Assistant."

Personal canvassing of any of the members of the Authority is strictly prohibited, and would disqualify any candidate.

By Order,
FREDERICK ASHMEAD, M.Inst.C.E.,
Borough Engineer and Surveyor.

51, Prince-street, Bristol.
December 12th, 1891.

CORPORATION of LUTON.

APPOINTMENT OF BOROUGH SURVEYOR AND ENGINEER.

The Town Council of Luton will proceed to the APPOINTMENT of BOROUGH SURVEYOR and ENGINEER at a meeting on DECEMBER 29th, 1891.

The person appointed must be capable of carrying out and performing the whole of the duties of a Surveyor and Engineer as defined by various Acts of Parliament now or hereafter to be carried out in the said Borough, and perform such other duties applicable to his office as may be directed from time to time by the Town Council as Municipal or Sanitary Authorities; he must be capable of managing the whole of the Sewage Farm and the Sewage and Sewerage systems of the Borough.

The person appointed must devote the whole of his time to the duties of his office. Commencing salary 200*l.* per annum, with use of horse and trap.

The appointment will be subject to three months written notice on either side.

Applications (with three recent testimonials) stating age, previous appointment, and qualifications, to be sent to me by FOUR o'clock on MONDAY the 28th DECEMBER, 1891.

Applicants canvassing members directly or indirectly will be disqualified.

GEO. SELL,
Deputy Town Clerk.

Municipal Offices,
Town Hall, Luton.
December 16th, 1891.

TO SURVEYORS AND ENGINEERS.

The Vestry of St. Pancras REQUIRE a CHIEF SURVEYOR. Salary 600*l.* per annum.

Candidates must be between 30 and 50 years of age.

The person elected will be required to devote his whole time to the duties of the office, and to reside within the Parish.

The appointment to be determinable by one month's notice, at any time, by either party, or by payment of one month's salary in lieu of notice.

There will be no superannuation allowance attached to the office, and any fees or payment received in respect of the office are to be paid over to the Vestry's account.

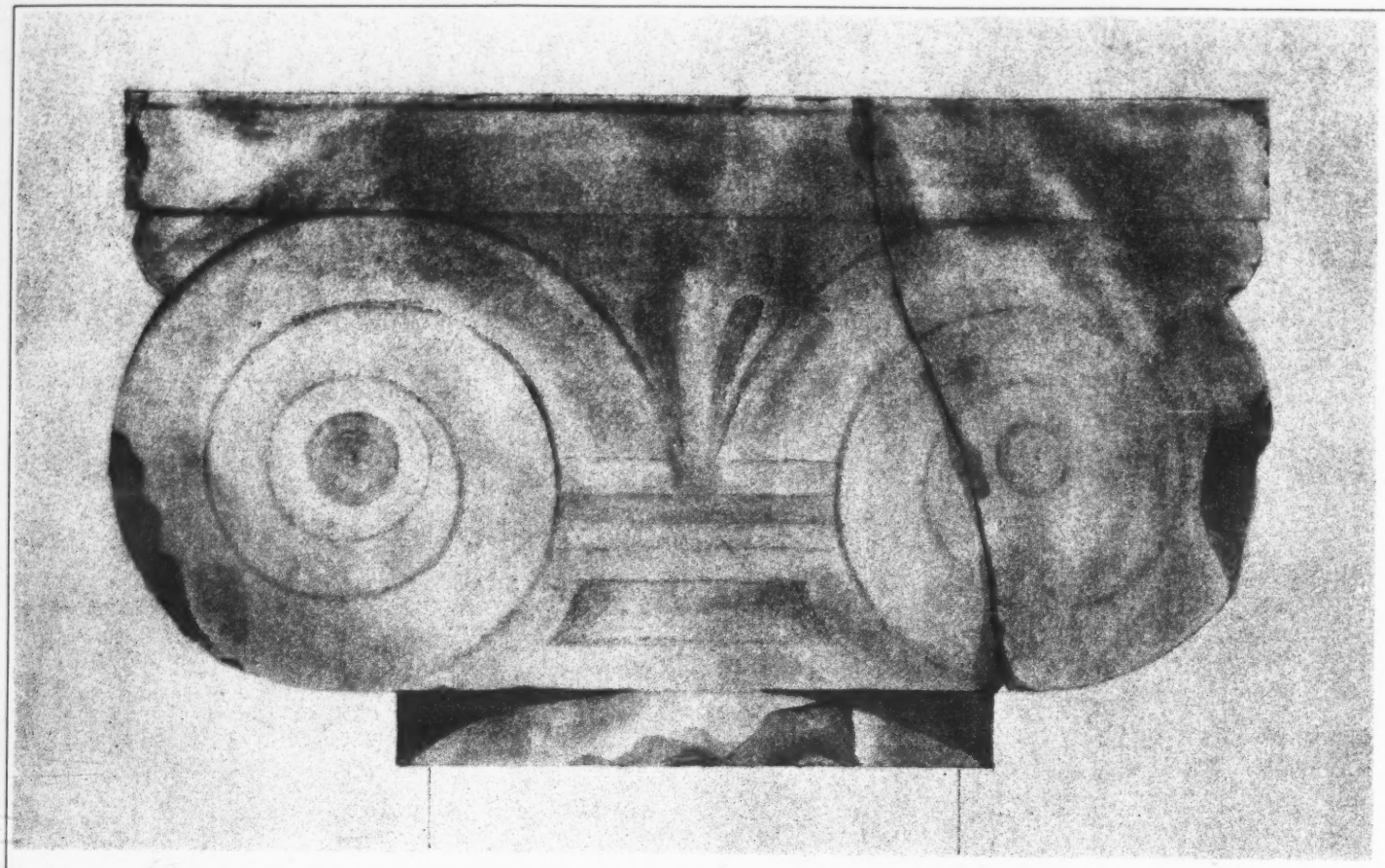
Applications, accompanied by testimonials of recent date, not exceeding six in number, must be forwarded to the undersigned not later than the 6th JANUARY next. Candidates will have notice if required to attend.

No travelling or other expenses will be allowed on any occasion of attendance. Personal canvassing will be a disqualification.

Forms of application and particulars of duties can be obtained on application at the Vestry Hall.

THOS. ECCLESTON GIBB,
Vestry Clerk.

Vestry Hall, Pancras-road, N.W.
December 10th, 1891.



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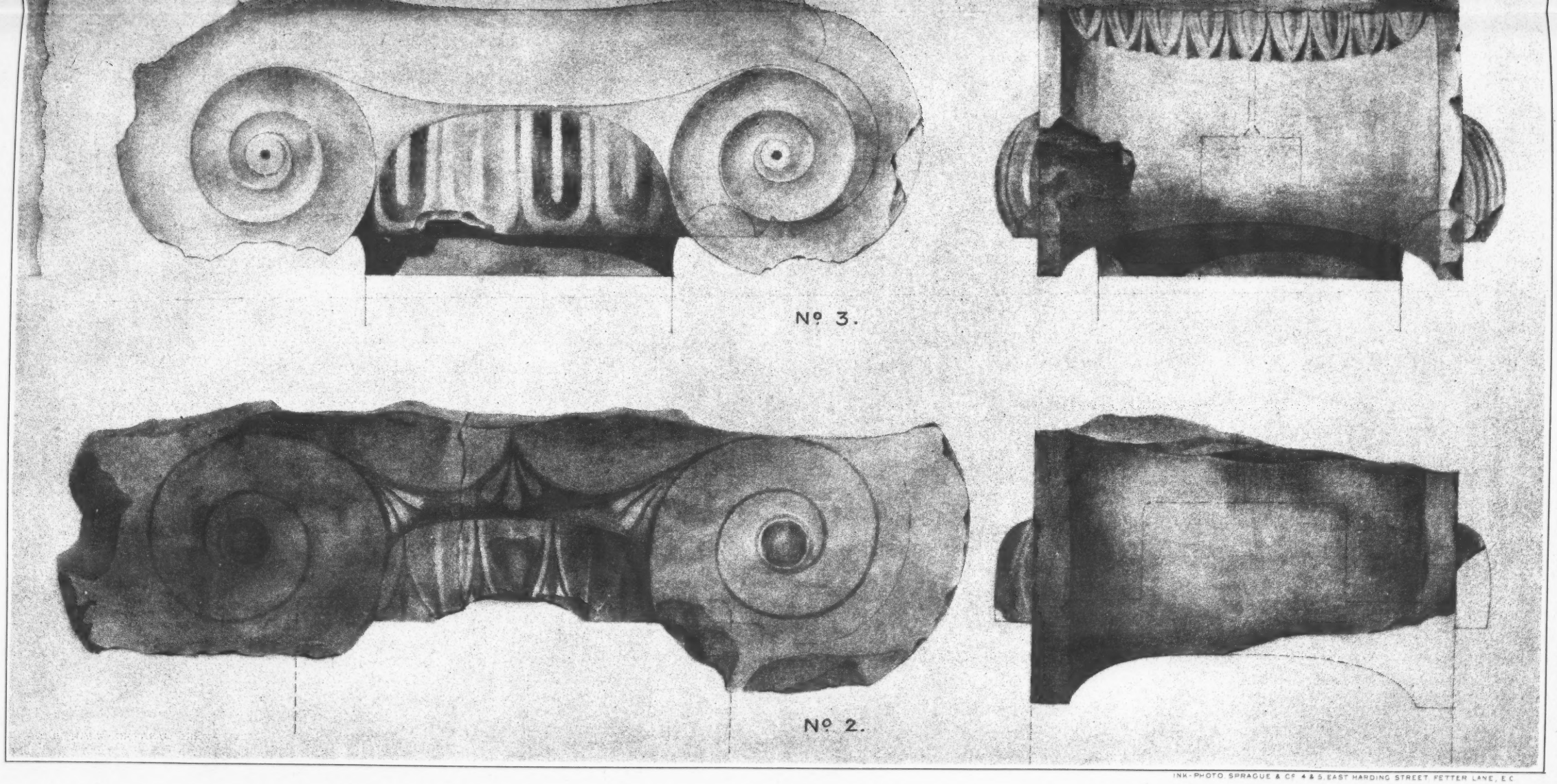
PEDESTAL WITH IONIC CAPITAL FROM AN ATTIC VASE EARLY 5TH CENTURY

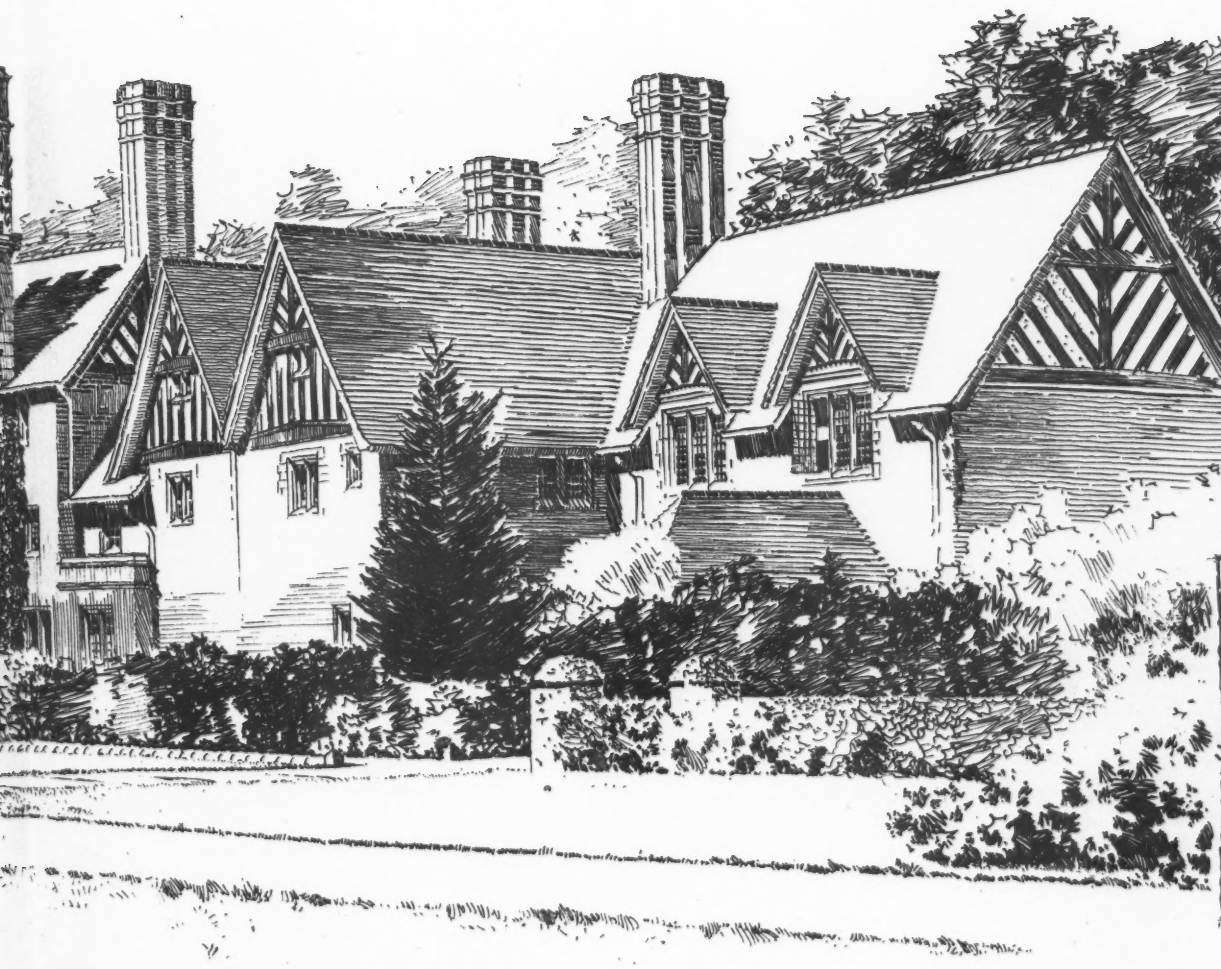


INK-PHOTO SPRAGUE & Co 4 & 5 EAST HARDING STREET FETTER LANE, E.C.

ARCHAIC IONIC CAPITALS, THE ACROPOLIS, ATHENS.—Drawn by Mr. R. Weir Schültz.

Royal Academy Exhibition, 1891.

Royal Academy Exhibition, 1891.



WHITTLINGTON
HALL
Staffordshire.
A restoration

M. H. Holding
Archt.
Northampton

PHOTO-LITHO SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

INK-PHOTO. SPRAGUE & Co. 4 & 5 EASY HARDING STREET, FETTER LANE, E.C.

NEW PAROCHIAL OFFICES, BATTERSEA.—Mr. E. W. Mountford, F.R.I.B.A., Architect.

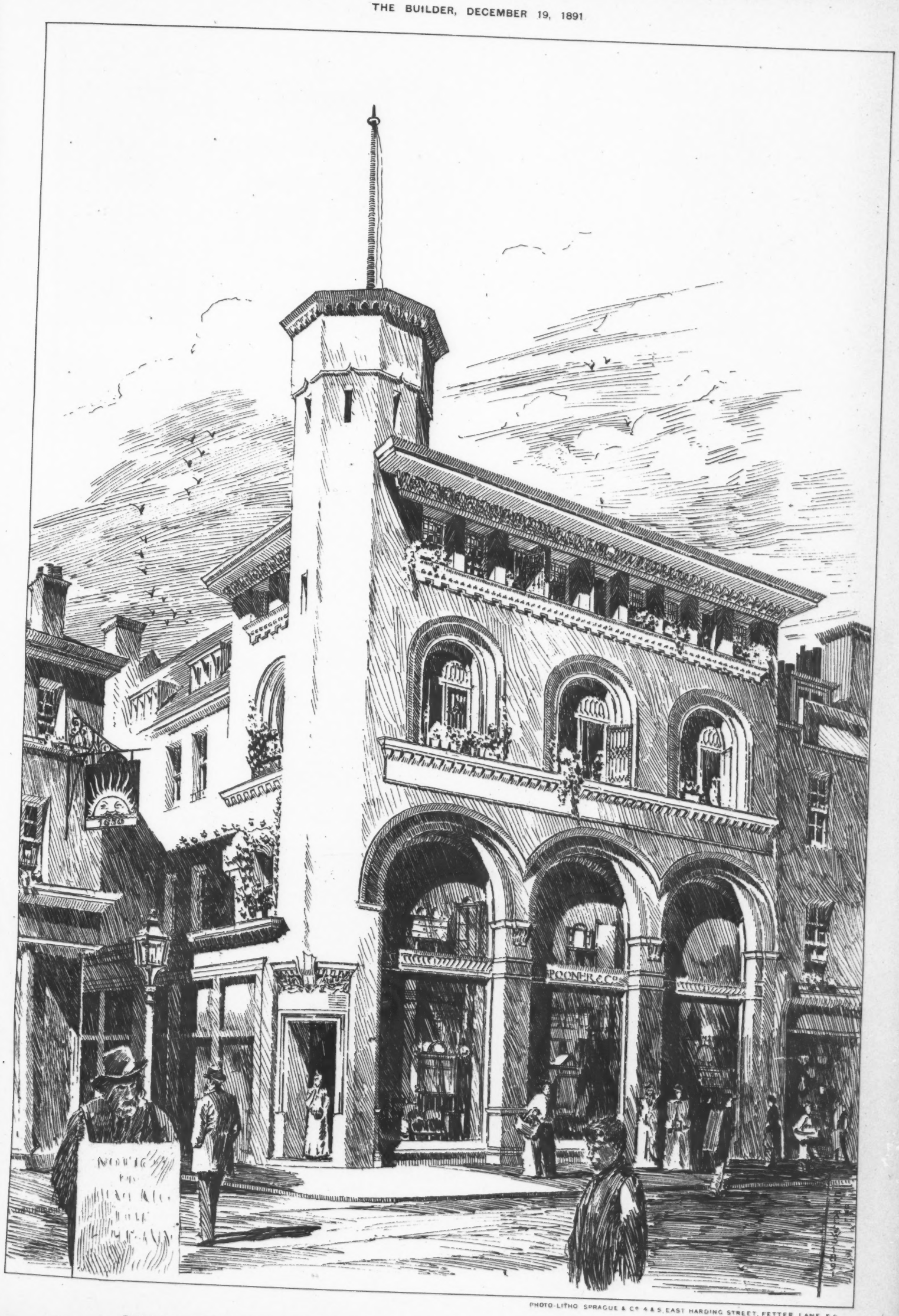


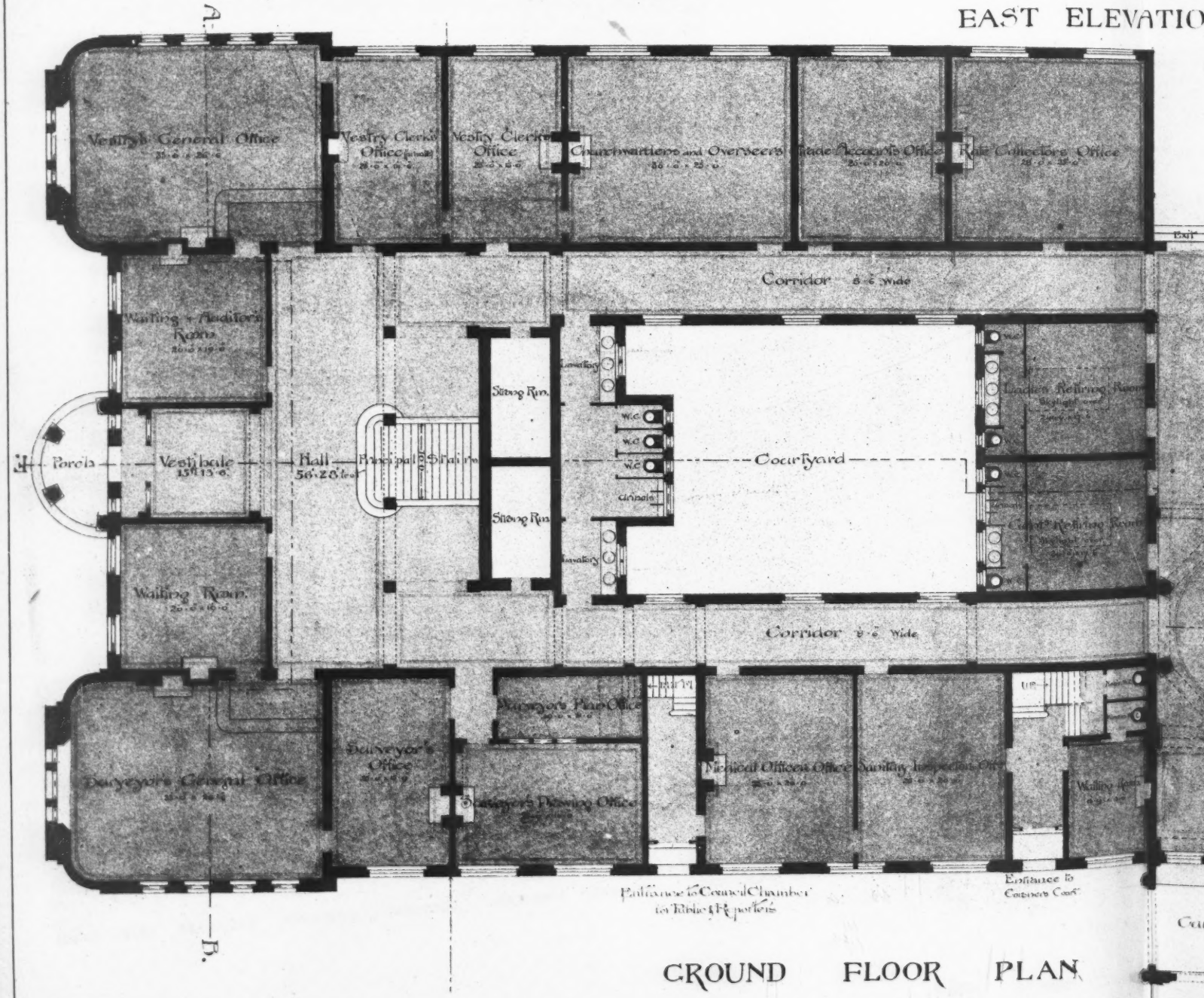
PHOTO-LITHO SPRAGUE & Co 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

BUSINESS PREMISES, EAST STREET, PLYMOUTH.—Mr. W. Dunn, A.R.I.B.A., Architect.

NEW PAROCHIAL OFFICES F

Mr E.W. Mountford, F.R.I.B.A. Architect

EAST ELEVATIO



GROUND FLOOR PLAN

BATTERSEA

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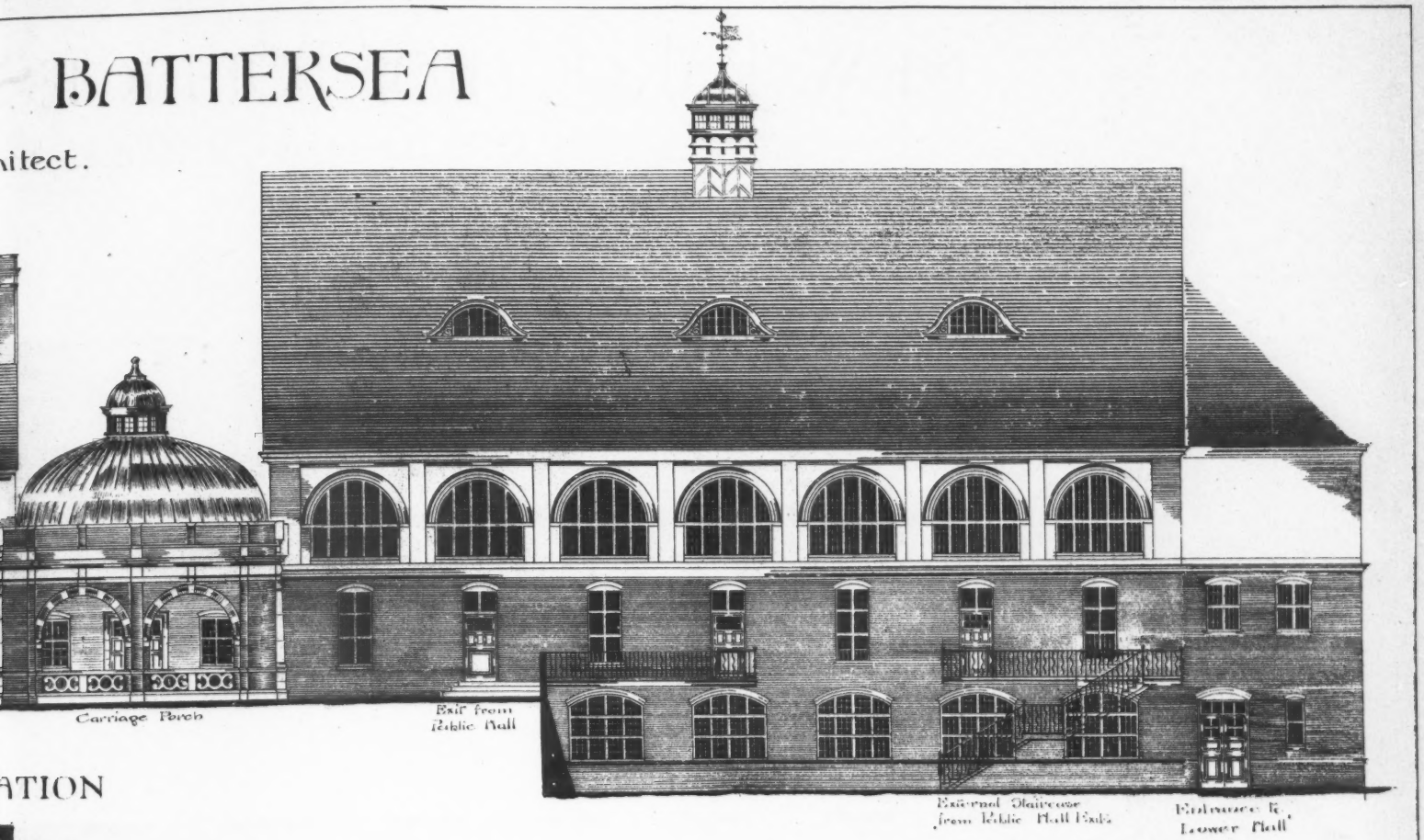

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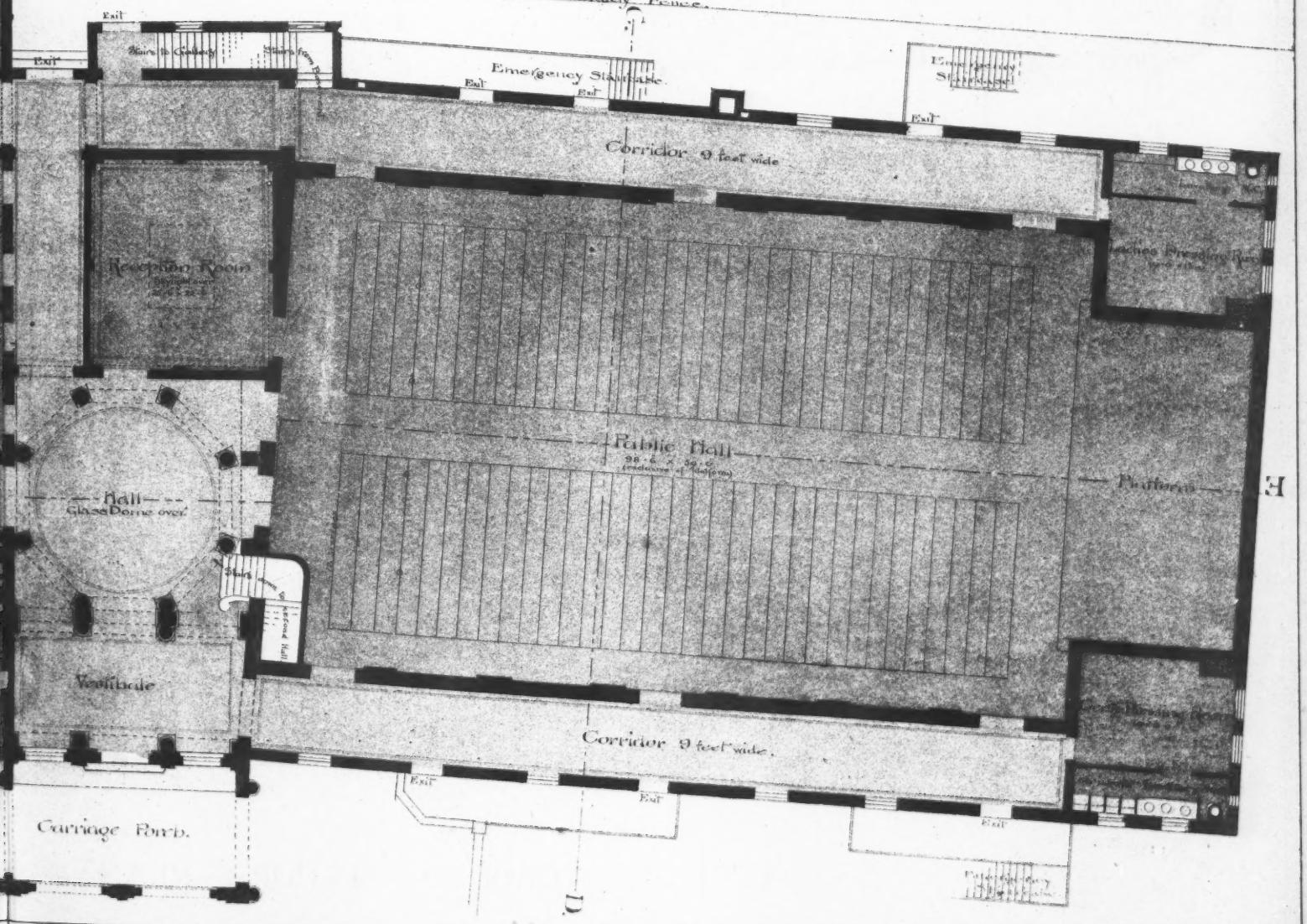
Scale of 10 0 0 10 20 30 40 50 60 70 80 Feet



INK-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.